January 29, 2021 Vertex Project #: 20E-00141-059

Spill Closure Report: Todd 36G State #8
Unit D, Section 36, Township 23 South, Range 31 East
County: Eddy
API: 30-015-29292
Tracking Number: NAB1731055411

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 the release that occurred on October 2, 2017, at Todd 36G State #8, API 30-015-29292 (hereafter referred to as "Todd 36G"). Devon provided immediate notification of the spill to New Mexico Oil Conservation Division (NM OCD) District 2 on October 2, 2017, followed by submission of the initial C-141 Release Notification (Attachment 1) on November 6, 2017. The NM OCD tracking number assigned to this incident is NAB1731055411.

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

Incident Description

On October 2, 2017, a release occurred at Devon's Todd 36G site when a flowline ruptured due to a murphy kill having a broken wire. This incident resulted in the release of approximately 5 barrels (bbls) of produced water and 0.6 bbls of oil into the pasture. Upon discovery of the release, the well was shut in at the header to stop the release. No produced water or oil were recovered from the impacted area.

Site Characterization

The release at Todd 36G occurred on federally-owned land, N 32.26703, W 103.73840, approximately 18 miles east of Loving, New Mexico. The legal description for the site is Unit P, Section 26, Township 23 South, Range 31 East, Eddy County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and rangeland. An aerial photograph and site schematic are included in Attachment 2.

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. The plant community has historically been dominated by giant dropseed and other dropseed grass species, with scattered shinnery oak and soapweed yucca. Bare ground and litter compose a significant proportion of ground cover while grasses make up the remainder (United States Department of Agriculture, Natural Resources Conservation Service, 2020). Limited to no vegetation is allowed to grow on the compacted wellpad.

The Geological Map of New Mexico indicates the surface geology at Todd 36G 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 (NRCS) Web Soil Survey characterizes the soil at the site as Kermit-Berino fine sands, characterized by alluvial fans and plains comprised of deep sand. It 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 Todd 36G, though some erosional karst is possible (United States Department of the Interior, United States Geological Survey, 2020a).

There is no surface water located at Todd 36G. A freshwater emergent wetland is located approximately 2.6 miles southeast of the release site (United States Fish and Wildlife Service, 2020). The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the Pecos River located approximately 16 miles west of the site (United States Department of the Interior, United States Geological Survey, 2020b). At Todd 36G, 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 Todd 36G is a New Mexico Office of the State Engineer (NM OSE)-identified well from 2013, located approximately 0.76 miles west of the site, with a depth to groundwater of 430 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 was subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Based on data included in the closure criteria determination worksheet, the release at Todd 36G is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC. As the nearest groundwater well is farther than 0.5 miles from the release site, the depth to groundwater at Todd 36G cannot be accurately determined. The closure criteria for the site are determined to be associated with the following constituent concentration limits.

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

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

Remedial Actions

An initial spill inspection, completed by Vertex on September 16, 2020, identified and mapped the boundaries of the release using field screening methods, including a photoionization detector (PID) to determine the presence of volatile organics, the Petrogflag system to estimate the level of hydrocarbons and an electroconductivity (EC) meter to approximate chloride levels in the soil. Daily Field Reports (DFRs) and field screening data associated with the site visit are included in Attachment 4. The impacted area was determined to be approximately 71 feet long and 55 feet wide; the total affected area was determined to be approximately 1,768 square feet as shown on Figure 1 (Attachment 2).

On November 27, 2020, Vertex provided 48-hour notification of confirmation sampling to the NM OCD, as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC (Attachment 5). Excavation of impacted soils began on November 20, 2020, with a Vertex representative on-site to conduct field screening to guide the excavation and determine the final horizontal and vertical extents of the excavation area as presented on Figure 2 (Attachment 2). On December 1, 2020, as remediation activities were concluding, Vertex collected a total of 14 five-point composite samples from the base and sidewalls of the excavation, at depths ranging between 0 and 2.5 feet bgs. 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 6). Laboratory data reports and chain of custody forms are included in Attachment 7.

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

Of the 14 confirmatory samples, one sample (WS20-05) failed to meet NM OCD closure criteria. Additional excavation was completed in the area of that sample location on December 18, 2020, and the confirmatory sample was re-collected. The final laboratory results for this sample point are shown in Table 3.

Closure Request

Vertex recommends no additional action to address the release at Todd 36G. Laboratory analyses of the confirmatory samples showed constituent of concern concentration levels below NM OCD closure criteria for areas where depth to groundwater is less than 50 feet bgs as shown in Table 1. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

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

Vertex requests that this incident (NAB1731055411) 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 October 2, 2017, release at Todd 36G.

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 Initial Notification
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 Results
Attachment 6. Required 48-hr Notification of Confirmatory Sampling to Regulatory Agencies
Attachment 7. Laboratory Data Reports/Chain of Custody Forms

References

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

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

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

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

United States Department of the Interior, United States Geological Survey. (2020a). *New Mexico Cave/Karsts*. *Caves and Karst in the U.S. National Park Service*. Retrieved from https://www.arcgis.com/home/webmap/viewer.html?webmap=14675403c3794 8129acb758138f2dd1e

United States Department of the Interior, United States Geological Survey. (2020b). *National Water Information System.* Retrieved from https://maps.waterdata.usgs.gov/mapper/index.html?state=nm

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

NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 03 2017
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

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1731055411

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company 6137	**Contact** Matt Nettles, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	**Telephone No.** 575-513-5767
Facility Name Todd 36G State 8 (Occurred near the Todd 36D State 2 location)	**Facility Type** Oil

Surface Owner Federal	**Mineral Owner** State	**API No** 30-015-29292

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	36	23S	31E					Eddy

Latitude: 32.26703 **Longitude:** -103.73840

NATURE OF RELEASE

Type of Release Produced Water and Oil	**Volume of Release** 5.6bbls	**Volume Recovered** 0bbls
Source of Release Flow line	**Date and Hour of Occurrence** October 2, 2017 @ 3:30 PM	**Date and Hour of Discovery** October 2, 2017 @ 3:30 PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** Mike Bratcher, OCD	
By Whom? Chris West, Asst. Production Foreman	**Date and Hour** October 2, 2017 @ 4:30 PM	
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.*
Flow line from the Todd 36G State 8 ruptured due to murphy kill having a broke wire. The well was shut in at the header to stop the release.

Describe Area Affected and Cleanup Action Taken.*
Approximately 5bbls produced water and .6bbls oil were released into pasture. The area is approximately 70'x30' in the pasture to the East of the battery. 0bbls recovered. An environmental contractor will be contacted to assist with the delineation and remediation.

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

Signature: Sheila Fisher

Printed Name: Sheila Fisher

Title: **Field Admin Support**

E-mail Address: **Sheila.fisher@dvn.com**

Date: 10/3/17 Phone: **575.748.1829**

Please refer to the New Mexico Oil Conservation Division Website for updated form(s) at: http://www.emnrd.state.nm.us/OCD/forms.html Thank you

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Crystal Weaver

Approval Date: 11/10/17 Expiration Date: N/A

Conditions of Approval: see attached

Attached ☒ 2RP-4471

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **11/3/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4471 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 II office in Artesia on or before 12/3/17. 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

Weaver, Crystal, EMNRD

From: Fisher, Sheila <Sheila.Fisher@dvn.com>
Sent: Friday, November 3, 2017 1:27 PM
To: Weaver, Crystal, EMNRD; Bratcher, Mike, EMNRD; Amber Groves (agroves@slo.state.nm.us)
Cc: Shoemaker, Mike; Fulks, Brett; West, Christopher; Carter, Ray; Nettles, Matt
Subject: RE: [EXTERNAL] RE: Todd 36D State 2_5.6bbls pw & oil_10.2.17
Attachments: Todd 36G State 8_5.6bbls pw & oil_Initial C-141_10.2.17-Revised.doc; Todd 36G State 8_5.6bbls pw & oil_GIS Image_10.2.17.pdf

Good Afternoon,

Please see updated C-141 and GIS Image with revised title block per your comments.

Thank you,

Sheila Fisher
Field Admin Support
Production
B-Schedule

Devon Energy Corporation
PO Box 250
Artesia, NM 88211
575 748 1829 Direct

devon

From: Weaver, Crystal, EMNRD [mailto:Crystal.Weaver@state.nm.us]
Sent: Friday, October 13, 2017 9:04 AM
To: Fisher, Sheila <Sheila.Fisher@dvn.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Amber Groves (agroves@slo.state.nm.us) <agroves@slo.state.nm.us>
Cc: Shoemaker, Mike <Mike.Shoemaker@dvn.com>; Fulks, Brett <Brett.Fulks@dvn.com>; West, Christopher <Christopher.West@dvn.com>; Carter, Ray <Ray.Carter@dvn.com>; Nettles, Matt <Matt.Nettles@dvn.com>
Subject: [EXTERNAL] RE: Todd 36D State 2_5.6bbls pw & oil_10.2.17

Also Shelia,

I forgot to mention. I have the locations for both wells as being on Federal surface and State minerals. So you, and anyone else, would need to include both Amber Groves from the State Land Office and Shelly Tucker from the Carlsbad BLM Office on all submissions unless they indicate otherwise.

Thank you,

Crystal Weaver
Environmental Specialist
OCD – Artesia District II
811 S. 1st Street
Artesia, NM 88210
Office: 575-748-1283 ext. 101
Cell: 575-840-5963
Fax: 575-748-9720

From: Weaver, Crystal, EMNRD
Sent: Friday, October 13, 2017 8:45 AM
To: 'Fisher, Sheila' <Sheila.Fisher@dvn.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Amber Groves (agroves@slo.state.nm.us) <agroves@slo.state.nm.us>
Cc: Shoemaker, Mike <Mike.Shoemaker@dvn.com>; Fulks, Brett <Brett.Fulks@dvn.com>; West, Christopher <Christopher.West@dvn.com>; Carter, Ray <Ray.Carter@dvn.com>; Nettles, Matt <Matt.Nettles@dvn.com>
Subject: RE: Todd 36D State 2_5.6bbls pw & oil_10.2.17

Shelia,

I have made some changes to your initial C-141 to give you an idea of what we need to see (please see the attachment). How you had sent it in makes things confusing. If the release occurred at the Todd 36D State 2 location then that is where your coordinates need to indicate, but if the well responsible for the leak is Todd 36G State 8 then you need to mostly fill out the C-141 to relate the incident to that well. Please make the suggested corrections and resend. If I am understanding the events of this spill incorrectly in any way please clarify.

Thank you,

Crystal Weaver
Environmental Specialist
OCD – Artesia District II
811 S. 1st Street
Artesia, NM 88210
Office: 575-748-1283 ext. 101
Cell: 575-840-5963
Fax: 575-748-9720

From: Fisher, Sheila [mailto:Sheila.Fisher@dvn.com]
Sent: Thursday, October 12, 2017 3:07 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; Amber Groves (agroves@slo.state.nm.us) <agroves@slo.state.nm.us>
Cc: Shoemaker, Mike <Mike.Shoemaker@dvn.com>; Fulks, Brett <Brett.Fulks@dvn.com>; West, Christopher <Christopher.West@dvn.com>; Carter, Ray <Ray.Carter@dvn.com>; Nettles, Matt <Matt.Nettles@dvn.com>
Subject: Todd 36D State 2_5.6bbls pw & oil_10.2.17

Good Afternoon,

Attached please find the Initial C-141 and GIS Image for the 5.6bbls produced water and oil released at the Todd 36D State 2 on 10.2.17.

If you have any questions please feel free to contact me.

Thank you,

Sheila Fisher
Field Admin Support
Production
B-Schedule

Devon Energy Corporation
PO Box 250
Artesia, NM 88211
575 748 1829 Direct

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	NAB1731055411
District RP	2RP-4471
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1731055411
District RP	2RP-4471
Facility ID	
Application ID	

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

Printed Name: Wes Mathews Title: EHS Professional

Signature: Wesley Mathews Date: 4/21/2021

email: wesley.mathews@dvn.com Telephone: 575-513-8608

OCD Only

Received by: Date:

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAB1731055411
District RP	2RP-4471
Facility ID	
Application ID	

Closure

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

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

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

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

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

[X] Description of remediation activities

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

Printed Name: Wes Mathews Title: EHS Professional

Signature: Wesley Mathews Date: 4/21/2021

email: wesley.mathews@dvn.com Telephone: 575-513-8608

OCD Only

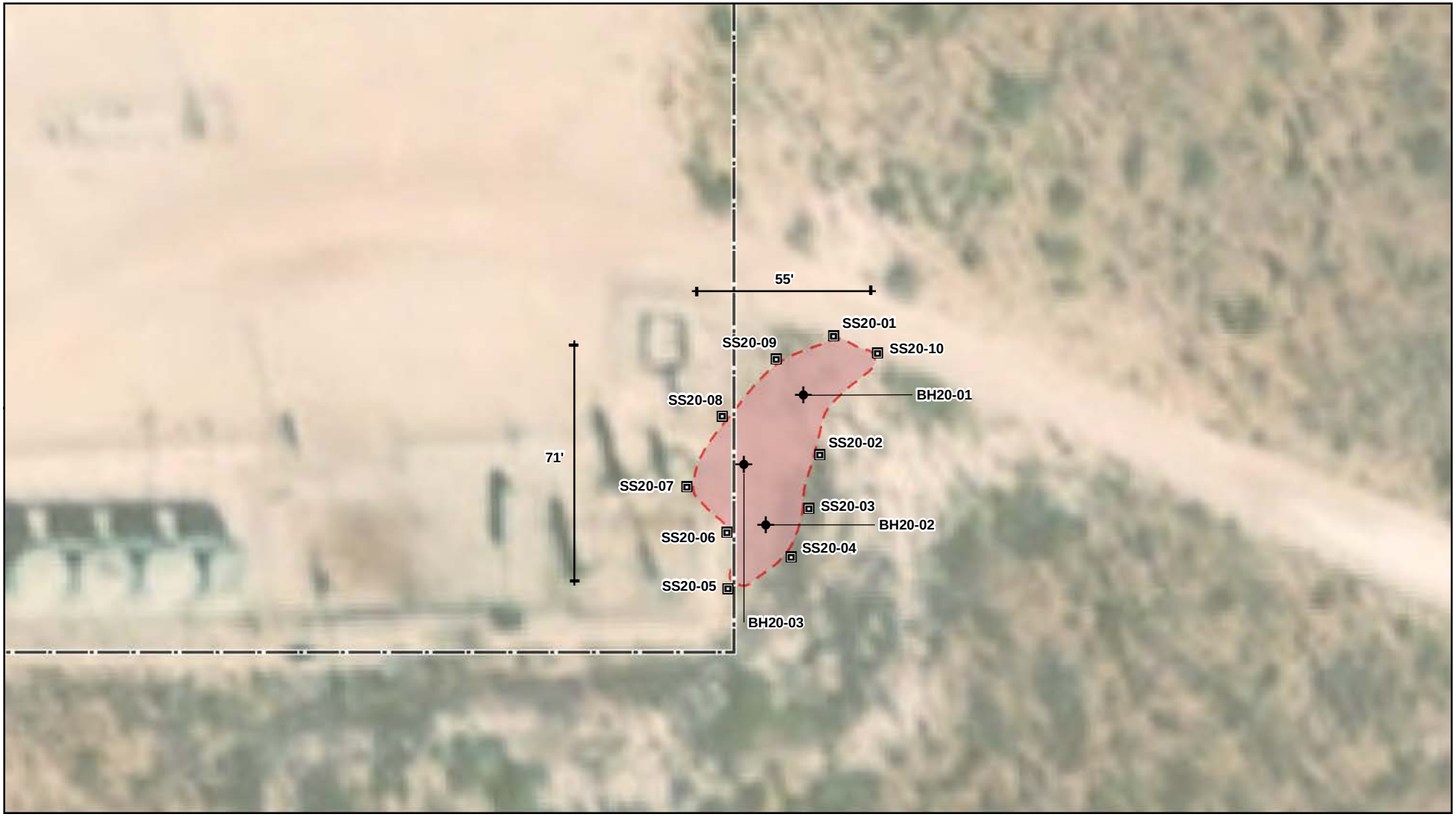
Received by: OCD Date: 4/22/2021

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

Closure Approved by: Ashley Maxwell Date: 9/16/2022

Printed Name: Ashley Maxwell Title: Environmental Specialist

ATTACHMENT 2



Borehole
Surface Sample
Approximate Lease Boundary
Approximate Spill Extent (1,768 sq. ft.)

VERTEX

0 12.5 25 50 Feet

Map Center:
Lat/Long: 32.267023, -103.738485

NAD 1983 UTM Zone 13N
Date: Oct 08/20

N

Site Schematic and Characterization Sampling Locations
Todd 36G State #8

FIGURE:
1

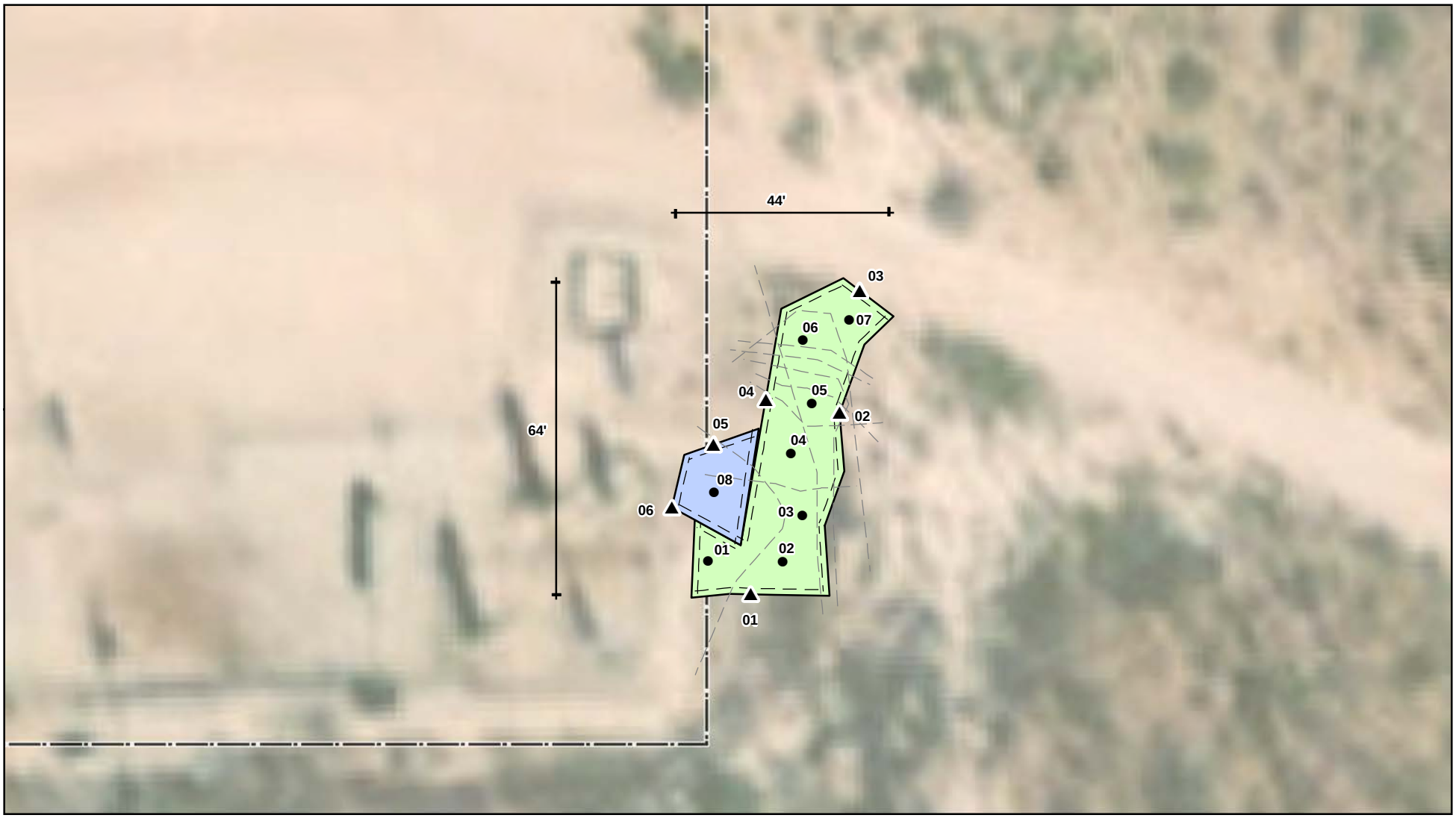
devon

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 Bing, 2019.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-001411\059 - Todd 36 G State 8\Figure 1 Initial Characterization (Todd 36 G State 8).mxd



Base Sample (Prefixed by "BS20-")
Wall Sample (Prefixed by "WS20-")
Aboveground Pipeline
Approximate Lease Boundary
0.5' Excavation (1,167 sq. ft.)
2.5' Excavation (244 sq. ft.)

VERTEX

0 12.5 25 Feet

Map Center:
Lat/Long: 32.267013, -103.738465

NAD 1983 UTM Zone 13N
Date: Dec 15/20

N

Confirmatory Sampling Locations
Todd 36G State #8

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 Bing, 2019.

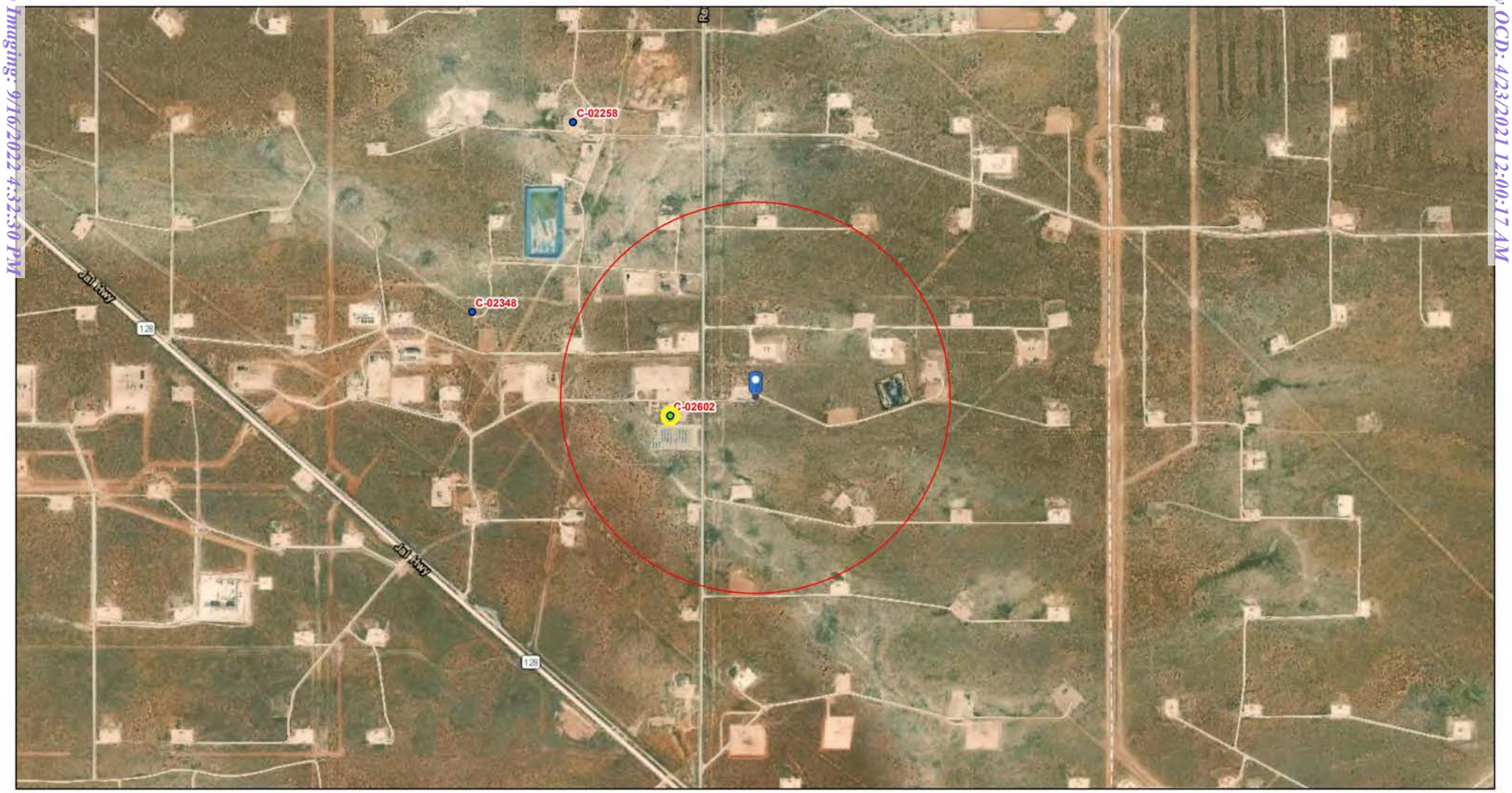
VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-00141\059 - Todd 36 G State 8\Figure 2 Confirmatory Schematic (Todd 36 G State 8).mxd

ATTACHMENT 3

Closure Criteria Worksheet			
Site Name: Todd 36 G State #8			
Spill Coordinates:		X: 32.26703	Y: -103.73840
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**0**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	>1000	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	>1000	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	>1000	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**	>1000	feet
	ii) Within 1000 feet of any fresh water well or spring	>1000	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	>1000	feet
8	Within the area overlying a subsurface mine		(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	No	year
11	Soil Type	Kermit_Berino fine sands	
12	Ecological Classification	Deep Sand	
13	Geology	Qep	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

Todd 36 G State 8



10/15/2020, 6:05:49 PM

GIS WATERS PODs

- Active
- Pending
- OSE District Boundary
- SiteBoundaries

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

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

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 02258	3	2		26	23S	31E	618055	3571853*

Driller License:	421	**Driller Company:**	GLENN'S WATER WELL SERVICE		
Driller Name:	CORKY GLENN				
Drill Start Date:	09/18/1992	**Drill Finish Date:**	09/18/1992	**Plug Date:**	
Log File Date:	09/25/1992	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	662 feet	**Depth Water:**	

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

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 02348	1	4	3	26	23S	31E	617648	3571068

Driller License:	1654	**Driller Company:**	NOT WORKING FOR HIRE--SIRMAN DRILLING AND CONSTRUC		
Driller Name:					
Drill Start Date:	10/31/2013	**Drill Finish Date:**	11/01/2013	**Plug Date:**	
Log File Date:	11/07/2013	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	10 GPM
Casing Size:	6.00	**Depth Well:**	700 feet	**Depth Water:**	430 feet

Water Bearing Stratifications:	Top	Bottom	Description
	15	125	Sandstone/Gravel/Conglomerate
	315	700	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	560	620
	680	700

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 02602	2	2		35	23S	31E	618471	3570650*

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

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

Casing Size: **Depth Well:** **Depth Water:**

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

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

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

site_no list =

- 321609103445901

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

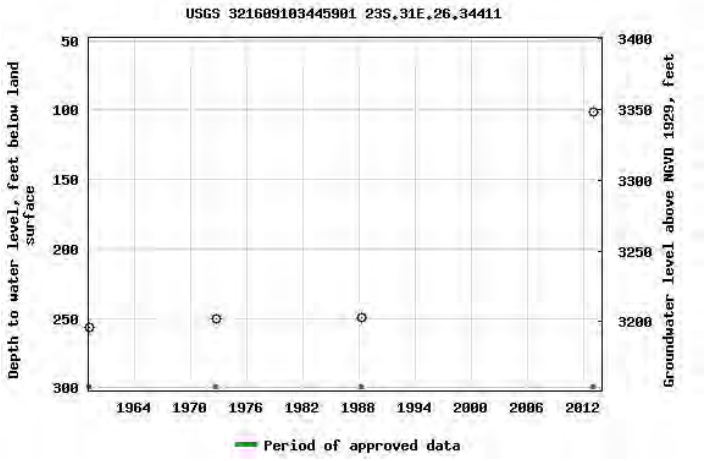
USGS 321609103445901 23S.31E.26.34411

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°16'11.9", Longitude 103°45'01.2" NAD83
Land-surface elevation 3,451.00 feet above NGVD29
The depth of the well is 365 feet below land surface.
This well is completed in the Dewey Lake Redbeds (312DYLK) local aquifer.

Output formats

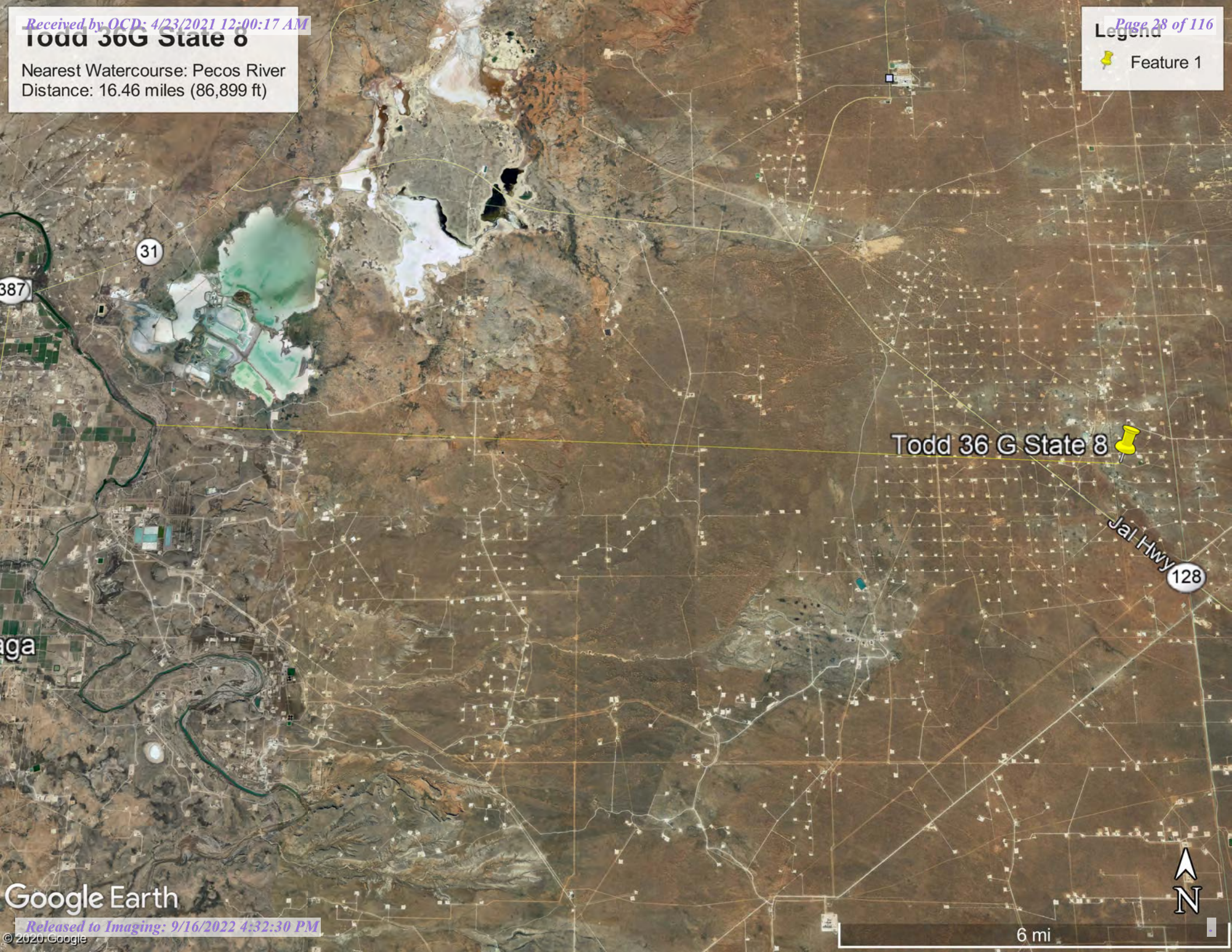
Table of data
Tab-separated data
Graph of data
Reselect period

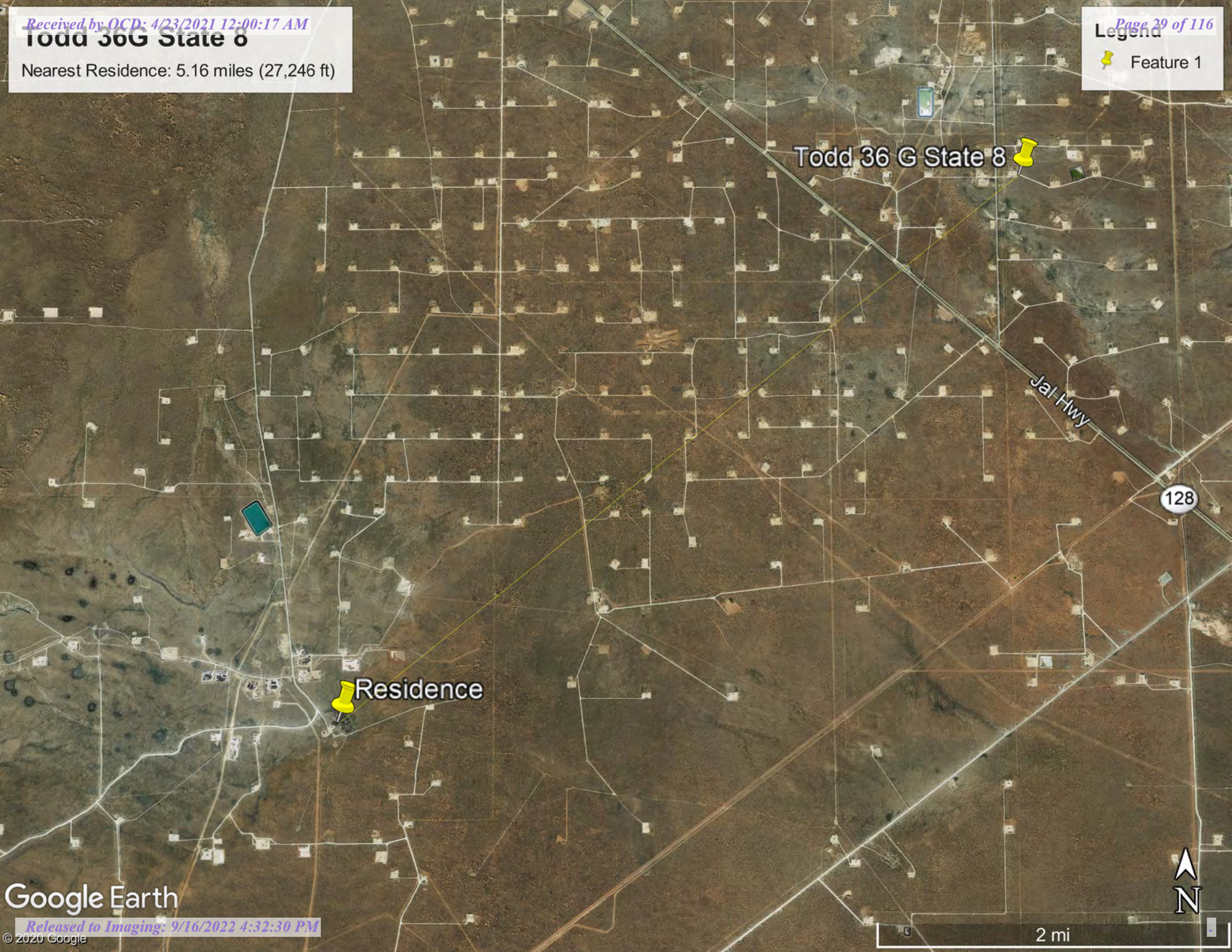


Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

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

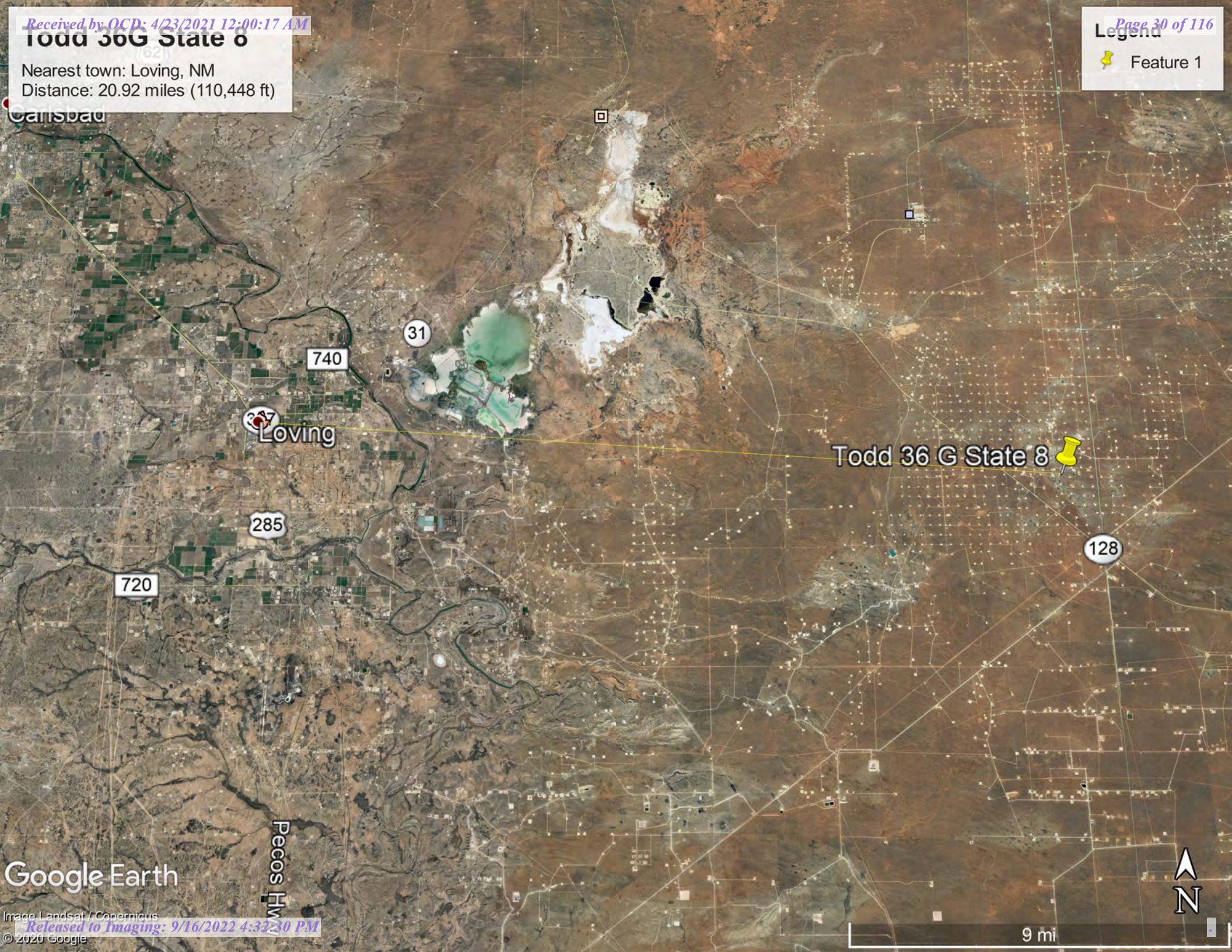
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?


Todd 36G State 8
Nearest Watercourse: Pecos River
Distance: 16.46 miles (86,899 ft)
Legend
Feature 1
31
387
Todd 36 G State 8
Jal Hwy
128
aga
Google Earth
6 mi
N


Todd 36G State 8
Nearest Residence: 5.16 miles (27,246 ft)
Legend
Feature 1
Todd 36 G State 8
Jal Hwy
128
Residence
Google Earth
N
2 mi
© 2020 Google

Todd 36G State 8

Nearest town: Loving, NM
Distance: 20.92 miles (110,448 ft)



U.S. Fish and Wildlife Service

National Wetlands Inventory

Todd 36G State 8

October 15, 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

Soil Map—Eddy Area, New Mexico

Map Scale: 1:1,590 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 16, Jun 8, 2020

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

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

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	9.5	100.0%
Totals for Area of Interest		**9.5**	**100.0%**

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: Alluvial fans, plains
Landform position (three-dimensional): Rise, talf
Down-slope shape: Linear, convex
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
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
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R042XC005NM - Deep Sand
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
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 content: 40 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups

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

Minor Components

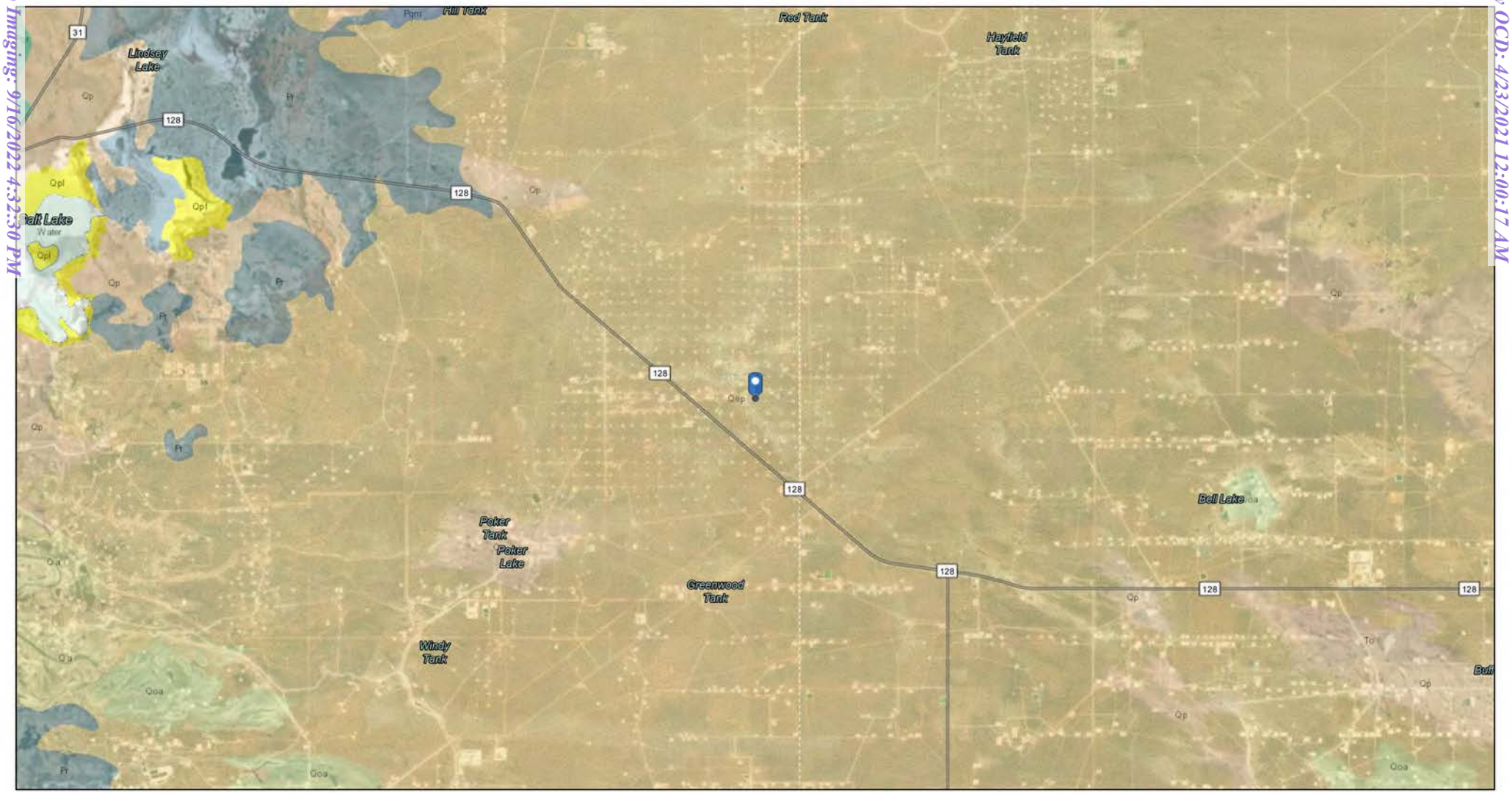
Active dune land

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

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 16, Jun 8, 2020

Todd 36 G State 8



1/8/2021, 3:52:38 PM

1:144,448

0 1.5 3 6 mi

0 2.5 5 10 km

Faults

- Fault, Exposed
- Fault, Intermittent
- Fault, Concealed
- Shere Zone

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, NMBGMR, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

ArcGIS Web AppBuilder

Bureau of Land Management, Network Operations Center (NOC) | New Mexico Bureau of Geology & Mineral Resources, Bureau of Land Management | New Mexico Bureau of Geology and Mineral Resources | New Mexico Bureau of Geology & Mineral Resources | NMBGMR | Compiled by the Bureau of Land

ATTACHMENT 4

Spill Response and Sampling

VERTEX

Client:	Devon
Date:	9-16-20
Site Name:	Todd 366 Stake 8
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			
BH20-1	0-1'			0.53/23.3	~~[illegible]~~			
BH20-2	0-1'			0.05/22.9				
BH20-1.1	0-1.5'			0.18/22.6	dug down 6"			
BH20-3	0-1'			2.27/23.9				
BH20-3.1	0-2.5'			1.84/23.3	dug down 1.5'			
BH20-3.2	0-3.5'			2.40/23.0	dug down 1'			

VERTEX

Spill Response and Sampling

Client:	Devon
Date:	9-16-20
Site Name:	[redacted]
Site Location:	Todd 36G State 8
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			
10'.20 E20-01	0-0.5			3.97/22.3				
E20-02	0-0.5			0.17/21.9				
E20-1.1	0-0.5			0.17/22.3	Stepped out 5'			
E20-3	0-0.5			0.04/23.0				
E20-4	0-0.5			0.04/22.7				
E20-5	0-0.5			0.04/22.8				
E20-6	0-0.5			0.05/23.8				
E20-7	0-0.5			7.14/23.1				
E20-8	0-0.5			0.09/23.0				
E20-7.1	0-0.5			0.24/22.8	Stepped out 5'			
E20-9	0-0.5			0.18/22.5				
E20-10	0-0.5			0.59/24.1				
E20-10.1	0-0.5			0.09/23.2	Stepped out 3'			

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/1/2020
Site Location Name:	Todd 36 G State #8	Report Run Date:	12/3/2020 12:40 AM
Client Contact Name:	Amanda Davis	API #:	30-015-29292
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Todd 36 G State #8	Project Owner:	Tom Bynum
Project Reference #	NAB1731055411	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	12/1/2020 7:52 AM
Departed Site	12/1/2020 3:30 PM

Field Notes

9:26 Continue excavation. Multiple poly lines across area needing excavation. All to be hand dug. Starting out at0.5’ increments and screening for guidance of where to stop.

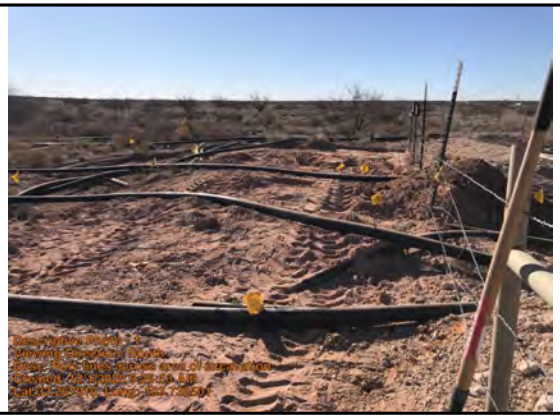
Next Steps & Recommendations

1 Continue excavation

Daily Site Visit Report

Site Photos

Viewing Direction: South



Poly lines across area of excavation

Viewing Direction: Southwest

Excavation area around poly lines

Viewing Direction: North

Excavation area

Viewing Direction: North

Hand dug area inside containment

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/2/2020
Site Location Name:	Todd 36 G State #8	Report Run Date:	12/3/2020 12:41 AM
Client Contact Name:	Amanda Davis	API #:	30-015-29292
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Todd 36 G State #8	Project Owner:	Tom Bynum
Project Reference #	NAB1731055411	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	12/2/2020 9:01 AM
Departed Site	12/2/2020 3:38 PM

Field Notes

11:06 Continue excavation and finish collection of confirmation samples

Next Steps & Recommendations

1 Complete closure report

2 Backfill area

Daily Site Visit Report

Site Photos

Viewing Direction: North

Excavation area

Viewing Direction: West

Excavation area

Viewing Direction: South

Excavation area

Viewing Direction: West

2.5’ excavation area

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature: 

VERTEX

Spill Response and Sampling

Client:	Devon
Date:	12/1/20
Site Name:	Todd 36 G 5+8
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			
L1	0.5			2.51/13.6	test 5 pct			
BS1	0.5		71	0.05/19.2	9:30			
BS 2	0.5		132	0.06/19.4				
BS3	0.5		91	0.05/19.7	9:40			
4	0.5		43	0.03/21.0	9:50			
5	0.5			0.14/17.6	12:00			
6	0.5		36	0.23/18.3	12:10			
BS 7	0.5			0.03/18.3	12:20			
WS 1	0-0.5		163	0.08/15.9	—			
2	0-0.5		66	0.09/20.3	10:10			
WS 3				0.29/17.4	12:40			
BS2.1			159	0.08/17.2	—			
BS2.2			109	0.05/19.6	—			
WS1.1			90	0.04/19.4	10:30			
BS2.3			74	0.06/19.4	11:00			
WS 6	0-2.5			0.05/17.3	1:20			
BS 8	2.5		408	0.39/17.0	12:30			
~~BS9~~	~~0-0.5~~				1:30			
~~BS10~~	BS8.1	2.5	41	0.20/17.4				
WS 4	0-0.5		52	0.29/17.1	12:50			
WS 5	0-2.5			0.07/17.3	1:00			

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/21/2020
Site Location Name:	Todd 36 G State #8	Report Run Date:	12/21/2020 7:14 PM
Client Contact Name:	Amanda Davis	API #:	30-015-29292
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Todd 36 G State #8	Project Owner:	Tom Bynum
Project Reference #	NAB1731055411	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	12/21/2020 8:10 AM
Departed Site	12/21/2020 11:30 AM

Field Notes

8:12 Arrived on site, filled out safety paperwork.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: Southwest	**Viewing Direction**: North
	
Before backfill	Before backfill
Viewing Direction: Northeast	**Viewing Direction**: West
	
Before backfill	Before backfill

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: Southwest
	
Stock pile.	Backfill.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: John Ramirez

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	11/30/2020
Site Location Name:	Todd 36 G State #8	Report Run Date:	12/1/2020 1:23 PM
Client Contact Name:	Amanda Davis	API #:	30-015-29292
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Todd 36 G State #8	Project Owner:	Tom Bynum
Project Reference #	NAB1731055411	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	11/30/2020 9:09 AM
Departed Site	11/30/2020 4:09 PM

Field Notes

13:54 Beginning remediation of impacted area adjacent to secondary containment containing heater treaters and header. Buried and above ground pipe cover a majority of area so will start by hand digging around the lines.

6:03 Excavation was started from the south end working north towards access road. Depth of excavation of southern portion ranges from six inches to 1.5 feet below ground surface. All field screen locations are marked in Collector.

6:11 Approximately 15 cubic yards was removed from impacted area for the day. The removed soil is staged on plastic on the well pad.

Next Steps & Recommendations

1 Continue remediation activity by completing central and northern sections of excavation. Conduct confirmation sampling when completed.

Daily Site Visit Report

Site Photos

Viewing Direction: Northwest	**Viewing Direction**: Southwest
	
Impacted Area prior to remediation	Remediation in progress
Viewing Direction: West	**Viewing Direction**: South
	
Southern portion of excavation	Excavation

Daily Site Visit Report

Viewing Direction: South

Excavation (6” bgs)

Viewing Direction: Southwest

Excavation

Viewing Direction: South

Excavation (1.5’ bgs)

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Kevin Smith

Signature: 
Signature

ATTACHMENT 5

Client Name: Devon Energy Production Company
Site Name: Todd 36 G State #8
NM OCD Incident Tracking Number: NAB1731055411
Project #: 20E-00141-059
Lab Reports: 2009B06

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

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Electrical Conductivity)	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SS20-01	0-0.5	September 16, 2020	-	-	90	<0.024	<0.219	<4.9	<9.9	<49	<14.8	<63.8	90
SS20-02	0-0.5	September 16, 2020	-	-	107	<0.12	<1.09	<24	93	430	93	**523**	220
SS20-03	0-0.5	September 16, 2020	-	-	<0	<0.023	<0.207	<4.6	<8.5	<43	<13.1	<56.1	<60
SS20-04	0-0.5	September 16, 2020	-	-	<0	<0.12	<1.09	<24	700	2,200	**700**	**2,900**	<60
SS20-05	0-0.5	September 16, 2020	-	-	<0	<0.024	<0.217	<4.8	<9.8	<49	<14.6	<63.6	<59
SS20-06	0-0.5	September 16, 2020	-	-	<0	-	-	-	-	-	-	-	-
SS20-07	0-0.5	September 16, 2020	-	-	169	-	-	-	-	-	-	-	-
SS20-08	0-0.5	September 16, 2020	-	-	<0	-	-	-	-	-	-	-	-
SS20-09	0-0.5	September 16, 2020	-	-	96	-	-	-	-	-	-	-	-
SS20-10	0-0.5	September 16, 2020	-	-	<0	-	-	-	-	-	-	-	-
BH20-01	0	September 16, 2020	-	-	566	<0.11	<1.03	<23	600	3,500	**600**	**4,100**	500
BH20-01	0-1.5	September 16, 2020	-	-	91	<0.024	<0.219	<4.9	<9.5	<48	<14.4	<62.4	140
BH20-02	1	September 16, 2020	-	-	<0	-	-	-	-	-	-	-	-
BH20-03	0	September 16, 2020	-	-	**3,052**	<0.023	<0.208	<4.6	310	430	**310**	**740**	**2,400**
BH20-03	2.5	September 16, 2020	-	-	**2,457**	-	-	-	-	-	-	-	-
BH20-03	3.5	September 16, 2020	-	-	**3,278**	<0.024	<0.219	<4.9	<9.9	<50	<14.8	<64.8	**3,000**

"-" - Not applicable/assessed

Bold and grey shaded indicates approaching, or exceedance outside of, NM OCD closure criteria

Client Name: Devon Energy Production Company
Site Name: Todd 36 G State 8
NM OCD Incident Tracking Number: NAB1731055411
Project #: 20E-00141-059
Lab Report: 2012243; 2012A67

Table 3. Confirmatory Sampling 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	0.5	December 1, 2020	<0.025	<0.225	<5.0	<9.5	<48	<14.5	<62.5	<60
BS20-02	0.5	December 1, 2020	<0.025	<0.224	<5.0	<9.8	<49	<14.8	<63.8	<59
BS20-03	0.5	December 1, 2020	<0.025	<0.225	<5.0	<9.8	<49	<14.8	<63.8	<60
BS20-04	0.5	December 1, 2020	<0.025	<0.224	<5.0	<9.4	<47	<14.4	<61.4	<59
BS20-05	0.5	December 1, 2020	<0.024	<0.216	<4.8	<9.7	<48	<14.5	<62.5	120
BS20-06	0.5	December 1, 2020	<0.025	<0.222	<4.9	<9.8	<49	<14.7	<63.7	<60
BS20-07	0.5	December 1, 2020	<0.025	<0.222	<4.9	<9.6	<48	<14.5	<62.5	<60
BS20-08	2.5	December 1, 2020	<0.025	<0.224	<5.0	<9.1	<45	<14.1	<59.1	<60
WS20-01	0-0.5	December 1, 2020	<0.024	<0.219	<4.9	<9.9	<49	<14.8	<63.8	<60
WS20-02	0-0.5	December 1, 2020	<0.023	<0.211	<4.7	<9.4	<47	<14.1	<61.1	<60
WS20-03	0-0.5	December 1, 2020	<0.025	<0.221	<4.9	<9.3	<47	<14.2	<61.2	210
WS20-04	0-0.5	December 1, 2020	<0.025	<0.225	<5.0	<9.9	<50	<14.9	<64.9	260
WS20-05	0-2.5	December 1, 2020	<0.025	<0.222	<4.9	62	2,300	62	**2,362**	75
WS20-05	0-2.5	December 18, 2020	<0.024	<0.220	<4.9	<9.6	<48	<14.5	**<62.5**	150
WS20-06	0-2.5	December 1, 2020	<0.025	<0.222	<4.9	<9.8	<49	<14.7	<63.7	<60

"-" - Not applicable/assessed

Bold and grey-shaded indicates exceedance outside of NM OCD Closure Criteria

Bold and green-shaded indicates re-collection of sample previously in exceedance of NM OCD Closure Criteria

VERTEX

ATTACHMENT 6

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Friday, November 27, 2020 2:28 PM
To: Natalie Gordon
Subject: Fwd: NAB1731055411: Todd 36 G State 8 - 48-hr Notification of Confirmatory Sampling

---------- Forwarded message ---------
From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Fri, Nov 27, 2020 at 2:27 PM
Subject: NAB1731055411: Todd 36 G State 8 - 48-hr Notification of Confirmatory Sampling
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>, CFO_Spill, BLM_NM <blm_nm_cfo_spill@blm.gov>, Amos, James A <Jamos@blm.gov>, Kelsey <KWade@blm.gov>
Cc: <tom.bynum@dvn.com>, <Lupe.Carrasco@dvn.com>, <amanda.davis@dvn.com>, <wesley.mathews@dvn.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services Inc. has scheduled remediation fieldwork and confirmatory sampling to be conducted at Todd 36 G State 8 for the release that occurred on October 2, 2017. Incident tracking #: NAB1731055411/2RP-4471.

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

On Tuesday, December 1, 2020 at approximately 9 a.m., Monica Peppin of Vertex will be onsite to guide excavation of contaminated soil. Starting around 3:00 p.m., as remediation activities are completed, Monica will conduct confirmatory sampling. Confirmation sampling may extend into Wednesday, December 2, 2020.

Monica can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact her. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

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

ATTACHMENT 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 28, 2020

Natalie Gordon

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

RE: Todd 36G State 8 OrderNo.: 2009B06

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 9 sample(s) on 9/18/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2009B06**
Date Reported: **9/28/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2009B06-001 **Matrix:** SOIL

Client Sample ID: SS20-01 0-0.5
Collection Date: 9/16/2020 10:20:00 AM
Received Date: 9/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	90	60		mg/Kg	20	9/24/2020 11:53:23 PM	55435
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/22/2020 4:51:24 PM	55318
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2020 4:51:24 PM	55318
Surr: DNOP	94.0	30.4-154		%Rec	1	9/22/2020 4:51:24 PM	55318
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2020 10:32:10 PM	55300
Surr: BFB	87.2	75.3-105		%Rec	1	9/22/2020 10:32:10 PM	55300
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/22/2020 10:32:10 PM	55300
Toluene	ND	0.049		mg/Kg	1	9/22/2020 10:32:10 PM	55300
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2020 10:32:10 PM	55300
Xylenes, Total	ND	0.097		mg/Kg	1	9/22/2020 10:32:10 PM	55300
Surr: 4-Bromofluorobenzene	99.6	80-120		%Rec	1	9/22/2020 10:32:10 PM	55300

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 **2009B06**
Date Reported: **9/28/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2009B06-002 **Matrix:** SOIL

Client Sample ID: SS20-02 0-0.5
Collection Date: 9/16/2020 11:50:00 AM
Received Date: 9/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	220	60		mg/Kg	20	9/25/2020 12:55:25 AM	55435
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	93	46		mg/Kg	5	9/23/2020 1:48:01 PM	55318
Motor Oil Range Organics (MRO)	430	230		mg/Kg	5	9/23/2020 1:48:01 PM	55318
Surr: DNOP	110	30.4-154		%Rec	5	9/23/2020 1:48:01 PM	55318
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	24	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300
Surr: BFB	83.9	75.3-105	D	%Rec	5	9/22/2020 11:42:59 PM	55300
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.12	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300
Toluene	ND	0.24	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300
Ethylbenzene	ND	0.24	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300
Xylenes, Total	ND	0.49	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300
Surr: 4-Bromofluorobenzene	99.8	80-120	D	%Rec	5	9/22/2020 11:42:59 PM	55300

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 **2009B06**
Date Reported: **9/28/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2009B06-003 **Matrix:** SOIL

Client Sample ID: SS20-03 0-0.5
Collection Date: 9/16/2020 12:11:00 PM
Received Date: 9/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	9/25/2020 1:07:49 AM	55435
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	9/22/2020 5:10:52 PM	55318
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/22/2020 5:10:52 PM	55318
Surr: DNOP	90.1	30.4-154		%Rec	1	9/22/2020 5:10:52 PM	55318
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/23/2020 1:16:51 AM	55300
Surr: BFB	90.7	75.3-105		%Rec	1	9/23/2020 1:16:51 AM	55300
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/23/2020 1:16:51 AM	55300
Toluene	ND	0.046		mg/Kg	1	9/23/2020 1:16:51 AM	55300
Ethylbenzene	ND	0.046		mg/Kg	1	9/23/2020 1:16:51 AM	55300
Xylenes, Total	ND	0.092		mg/Kg	1	9/23/2020 1:16:51 AM	55300
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	9/23/2020 1:16:51 AM	55300

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 **2009B06**
Date Reported: **9/28/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2009B06-004 **Matrix:** SOIL

Client Sample ID: SS20-04 0-0.5
Collection Date: 9/16/2020 10:27:00 AM
Received Date: 9/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	9/25/2020 1:20:14 AM	55435
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	700	200		mg/Kg	20	9/22/2020 5:20:45 PM	55318
Motor Oil Range Organics (MRO)	2200	990		mg/Kg	20	9/22/2020 5:20:45 PM	55318
Surr: DNOP	0	30.4-154	S	%Rec	20	9/22/2020 5:20:45 PM	55318
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	24	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300
Surr: BFB	87.7	75.3-105	D	%Rec	5	9/23/2020 1:40:26 AM	55300
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.12	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300
Toluene	ND	0.24	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300
Ethylbenzene	ND	0.24	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300
Xylenes, Total	ND	0.49	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300
Surr: 4-Bromofluorobenzene	98.4	80-120	D	%Rec	5	9/23/2020 1:40:26 AM	55300

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 **2009B06**
Date Reported: **9/28/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2009B06-005 **Matrix:** SOIL

Client Sample ID: SS20-05 0-0.5
Collection Date: 9/16/2020 2:15:00 PM
Received Date: 9/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	59		mg/Kg	20	9/25/2020 1:32:39 AM	55435
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/22/2020 5:30:40 PM	55318
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2020 5:30:40 PM	55318
Surr: DNOP	74.3	30.4-154		%Rec	1	9/22/2020 5:30:40 PM	55318
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2020 2:04:02 AM	55300
Surr: BFB	89.5	75.3-105		%Rec	1	9/23/2020 2:04:02 AM	55300
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	9/23/2020 2:04:02 AM	55300
Toluene	ND	0.048		mg/Kg	1	9/23/2020 2:04:02 AM	55300
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2020 2:04:02 AM	55300
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2020 2:04:02 AM	55300
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	9/23/2020 2:04:02 AM	55300

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 **2009B06**
Date Reported: **9/28/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2009B06-006 **Matrix:** SOIL

Client Sample ID: BH20-01 0'
Collection Date: 9/16/2020 12:05:00 PM
Received Date: 9/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	500	59		mg/Kg	20	9/25/2020 1:45:03 AM	55435
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	600	190		mg/Kg	20	9/23/2020 2:11:48 PM	55318
Motor Oil Range Organics (MRO)	3500	960		mg/Kg	20	9/23/2020 2:11:48 PM	55318
Surr: DNOP	0	30.4-154	S	%Rec	20	9/23/2020 2:11:48 PM	55318
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	23	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Surr: BFB	84.4	75.3-105	D	%Rec	5	9/23/2020 2:27:37 AM	55300
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.11	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Toluene	ND	0.23	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Ethylbenzene	ND	0.23	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Xylenes, Total	ND	0.46	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Surr: 4-Bromofluorobenzene	96.2	80-120	D	%Rec	5	9/23/2020 2:27:37 AM	55300

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 **2009B06**
Date Reported: **9/28/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2009B06-007 **Matrix:** SOIL

Client Sample ID: BH20-01 0-1.5'
Collection Date: 9/16/2020 12:24:00 PM
Received Date: 9/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	140	61		mg/Kg	20	9/25/2020 1:57:27 AM	55435
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/22/2020 5:50:37 PM	55318
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/22/2020 5:50:37 PM	55318
Surr: DNOP	123	30.4-154		%Rec	1	9/22/2020 5:50:37 PM	55318
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/23/2020 2:51:04 AM	55300
Surr: BFB	88.8	75.3-105		%Rec	1	9/23/2020 2:51:04 AM	55300
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/23/2020 2:51:04 AM	55300
Toluene	ND	0.049		mg/Kg	1	9/23/2020 2:51:04 AM	55300
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2020 2:51:04 AM	55300
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2020 2:51:04 AM	55300
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	9/23/2020 2:51:04 AM	55300

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 **2009B06**
Date Reported: **9/28/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2009B06-008 **Matrix:** SOIL

Client Sample ID: BH20-03 0'
Collection Date: 9/16/2020 1:10:00 PM
Received Date: 9/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	2400	150		mg/Kg	50	9/25/2020 6:14:14 PM	55435
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	310	8.5		mg/Kg	1	9/23/2020 2:35:43 PM	55318
Motor Oil Range Organics (MRO)	430	43		mg/Kg	1	9/23/2020 2:35:43 PM	55318
Surr: DNOP	114	30.4-154		%Rec	1	9/23/2020 2:35:43 PM	55318
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/23/2020 3:14:30 AM	55300
Surr: BFB	86.9	75.3-105		%Rec	1	9/23/2020 3:14:30 AM	55300
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/23/2020 3:14:30 AM	55300
Toluene	ND	0.046		mg/Kg	1	9/23/2020 3:14:30 AM	55300
Ethylbenzene	ND	0.046		mg/Kg	1	9/23/2020 3:14:30 AM	55300
Xylenes, Total	ND	0.093		mg/Kg	1	9/23/2020 3:14:30 AM	55300
Surr: 4-Bromofluorobenzene	99.3	80-120		%Rec	1	9/23/2020 3:14:30 AM	55300

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 **2009B06**
Date Reported: **9/28/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2009B06-009 **Matrix:** SOIL

Client Sample ID: BH20-03 3.5'
Collection Date: 9/16/2020 1:25:00 PM
Received Date: 9/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	3000	150		mg/Kg	50	9/25/2020 6:26:38 PM	55435
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/22/2020 6:10:38 PM	55318
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/22/2020 6:10:38 PM	55318
Surr: DNOP	98.3	30.4-154		%Rec	1	9/22/2020 6:10:38 PM	55318
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/23/2020 3:37:57 AM	55300
Surr: BFB	93.4	75.3-105		%Rec	1	9/23/2020 3:37:57 AM	55300
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/23/2020 3:37:57 AM	55300
Toluene	ND	0.049		mg/Kg	1	9/23/2020 3:37:57 AM	55300
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2020 3:37:57 AM	55300
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2020 3:37:57 AM	55300
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	9/23/2020 3:37:57 AM	55300

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#: **2009B06**
28-Sep-20

Client: Devon Energy
Project: Todd 36G State 8

Sample ID: **MB-55435**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **55435**	RunNo: **72148**							
Prep Date: **9/24/2020**	Analysis Date: **9/24/2020**	SeqNo: **2529091**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-55435**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **55435**	RunNo: **72148**							
Prep Date: **9/24/2020**	Analysis Date: **9/24/2020**	SeqNo: **2529092**	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.	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#: **2009B06**

28-Sep-20

Client: Devon Energy

Project: Todd 36G State 8

Sample ID: **LCS-55297**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **55297**	RunNo: **72063**							
Prep Date: **9/21/2020**	Analysis Date: **9/22/2020**	SeqNo: **2524681**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.7		5.000		154	30.4	154			

Sample ID: **LCS-55318**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **55318**	RunNo: **72063**							
Prep Date: **9/21/2020**	Analysis Date: **9/22/2020**	SeqNo: **2524682**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	119	70	130			
Surr: DNOP	3.7		5.000		74.6	30.4	154			

Sample ID: **LCS-55322**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **55322**	RunNo: **72063**							
Prep Date: **9/21/2020**	Analysis Date: **9/22/2020**	SeqNo: **2524684**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		5.000		80.5	30.4	154			

Sample ID: **LCS-55325**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **55325**	RunNo: **72063**							
Prep Date: **9/21/2020**	Analysis Date: **9/23/2020**	SeqNo: **2524685**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.7	30.4	154			

Sample ID: **MB-55297**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **55297**	RunNo: **72063**							
Prep Date: **9/21/2020**	Analysis Date: **9/22/2020**	SeqNo: **2524686**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		127	30.4	154			

Sample ID: **MB-55318**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **55318**	RunNo: **72063**							
Prep Date: **9/21/2020**	Analysis Date: **9/22/2020**	SeqNo: **2524687**	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	7.2		10.00		72.3	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#: **2009B06**
28-Sep-20

Client: Devon Energy
Project: Todd 36G State 8

Sample ID: **MB-55322**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **55322**	RunNo: **72063**							
Prep Date: **9/21/2020**	Analysis Date: **9/22/2020**	SeqNo: **2524688**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.6		10.00		86.2	30.4	154			

Sample ID: **MB-55325**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **55325**	RunNo: **72063**							
Prep Date: **9/21/2020**	Analysis Date: **9/22/2020**	SeqNo: **2524689**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		90.9	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#: **2009B06**

28-Sep-20

Client: Devon Energy

Project: Todd 36G State 8

Sample ID: **mb-55300**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **55300**	RunNo: **72044**
Prep Date: **9/21/2020**	Analysis Date: **9/23/2020**	SeqNo: **2523843** 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	850		1000		84.9	75.3	105			

Sample ID: **lcs-55300**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **55300**	RunNo: **72044**
Prep Date: **9/21/2020**	Analysis Date: **9/22/2020**	SeqNo: **2523844** 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	90.4	72.5	106			
Surr: BFB	960		1000		96.0	75.3	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#: **2009B06**
28-Sep-20

Client: Devon Energy
Project: Todd 36G State 8

Sample ID: **mb-55300** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **55300** RunNo: **72044**
Prep Date: **9/21/2020** Analysis Date: **9/23/2020** SeqNo: **2523891** 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		102	80	120			

Sample ID: **LCS-55300** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **55300** RunNo: **72044**
Prep Date: **9/21/2020** Analysis Date: **9/22/2020** SeqNo: **2523892** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.2	80	120			
Toluene	0.92	0.050	1.000	0	91.6	80	120			
Ethylbenzene	0.93	0.050	1.000	0	92.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: **2009b06-001ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SS20-01 0-0.5** Batch ID: **55300** RunNo: **72044**
Prep Date: **9/21/2020** Analysis Date: **9/22/2020** SeqNo: **2523894** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.024	0.9533	0	95.4	76.3	120			
Toluene	0.96	0.048	0.9533	0	101	78.5	120			
Ethylbenzene	0.99	0.048	0.9533	0	104	78.1	124			
Xylenes, Total	3.0	0.095	2.860	0	104	79.3	125			
Surr: 4-Bromofluorobenzene	0.96		0.9533		101	80	120			

Sample ID: **2009b06-001amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SS20-01 0-0.5** Batch ID: **55300** RunNo: **72044**
Prep Date: **9/21/2020** Analysis Date: **9/22/2020** SeqNo: **2523895** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	0.9814	0	95.9	76.3	120	3.45	20	
Toluene	0.99	0.049	0.9814	0	101	78.5	120	3.24	20	
Ethylbenzene	1.0	0.049	0.9814	0	104	78.1	124	2.79	20	
Xylenes, Total	3.1	0.098	2.944	0	104	79.3	125	2.89	20	
Surr: 4-Bromofluorobenzene	0.99		0.9814		101	80	120	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy Work Order Number: 2009B06 RcptNo: 1

Received By: **Cheyenne Cason** 9/18/2020 8:00:00 AM
Completed By: **Juan Rojas** 9/18/2020 9:54:56 AM
Reviewed By: 9/18/20

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: EM 9/18/20

Special Handling (if applicable)

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

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.0	Good				
2	5.6	Good				
3	2.9	Good				

Chain-of-Custody Record

Client: Devon

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 day
☒ Standard ☐ Rush

Project Name: Todd 36G State 8

Project #: ~~20801063~~ 20E-00141

Project Manager: N. Gordon

Sampler: JR
On Ice: ☒ Yes ☐ No
# of Coolers: 3
Cooler Temp(including CF): See Remarks (°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. 2009B06	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)						
9-16-20	10:20	0-0.5	SS20-01	4oz	ice	-001	X	X					X									
	11:50	0-0.5	SS20-02	↓	↓	-002	↓	↓					↓									
	12:11	0-0.5	SS20-03	↓	↓	-003	↓	↓					↓									
	10:27	0-0.5	SS20-04	↓	↓	-004	↓	↓					↓									
	2:15	0-0.5	SS20-05	↓	↓	-005	↓	↓					↓									
							↓	↓					↓									
	12:05	0'	BH20-01	↓	↓	-006	↓	↓					↓									
	12:24	0-1.5'	BH20-01	↓	↓	-007	↓	↓					↓									

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9-16	1500	[signature]	ACummings		9/17/20	1500
9/17/20	1900	ACummings	[signature]	Cour	9/18/20	0800

Remarks: CC: Natalie Gordon
Bill to Devon
Work order # 20801063
4.9+0.1=5.0
5.5+0.1=5.6
2.8+0.1=2.9

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

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5day
☒ Standard ☐ Rush

Project Name: Todd 36 G State 8

Project #: 20E-00141

Project Manager: N. Gordon

Sampler: SR

On Ice: ☒ Yes ☐ No

# of Coolers: 3

Cooler Temp (including CF): See bottom (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2009B06	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)
9-16-20	1:10	0'	BH20-03	4oz	ice	-006	X	X					X			
	1:25	3.5'	BH20-03	↓	↓	-009	1	1					1			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9-16	1500				9/17/20	1500
9/17/20	1900				9/18/20	0800

Remarks: CC: Natalie Gordon
Bill to Devon
Work order # 20801063

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

December 11, 2020

Natalie Gordon

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

RE: Todd 36 G State 8 OrderNo.: 2012243

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 14 sample(s) on 12/4/2020 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-001 **Matrix:** SOIL

Client Sample ID: BS20-01 0.5'
Collection Date: 12/1/2020 9:30:00 AM
Received Date: 12/4/2020 8:00:00 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	12/8/2020 11:45:34 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2020 11:45:34 AM
Surr: DNOP	114	30.4-154		%Rec	1	12/8/2020 11:45:34 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	12/9/2020 7:46:54 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 6:44:11 AM
Toluene	ND	0.050		mg/Kg	1	12/6/2020 6:44:11 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/6/2020 6:44:11 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/6/2020 6:44:11 AM
Surr: 1,2-Dichloroethane-d4	88.4	70-130		%Rec	1	12/6/2020 6:44:11 AM
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	12/6/2020 6:44:11 AM
Surr: Dibromofluoromethane	99.3	70-130		%Rec	1	12/6/2020 6:44:11 AM
Surr: Toluene-d8	98.6	70-130		%Rec	1	12/6/2020 6:44:11 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/6/2020 6:44:11 AM
Surr: BFB	99.8	70-130		%Rec	1	12/6/2020 6:44:11 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-002 **Matrix:** SOIL

Client Sample ID: BS20-02 0.5'
Collection Date: 12/1/2020 11:00:00 AM
Received Date: 12/4/2020 8:00:00 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	12/8/2020 11:55:16 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2020 11:55:16 AM
Surr: DNOP	113	30.4-154		%Rec	1	12/8/2020 11:55:16 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	59		mg/Kg	20	12/9/2020 8:24:08 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 7:11:35 AM
Toluene	ND	0.050		mg/Kg	1	12/6/2020 7:11:35 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/6/2020 7:11:35 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 7:11:35 AM
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%Rec	1	12/6/2020 7:11:35 AM
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	12/6/2020 7:11:35 AM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	12/6/2020 7:11:35 AM
Surr: Toluene-d8	98.0	70-130		%Rec	1	12/6/2020 7:11:35 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/6/2020 7:11:35 AM
Surr: BFB	98.1	70-130		%Rec	1	12/6/2020 7:11:35 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-003 **Matrix:** SOIL

Client Sample ID: BS20-03 0.5'
Collection Date: 12/1/2020 9:40:00 AM
Received Date: 12/4/2020 8:00:00 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	12/8/2020 12:05:00 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2020 12:05:00 PM
Surr: DNOP	87.8	30.4-154		%Rec	1	12/8/2020 12:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	12/9/2020 8:36:32 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 7:38:50 AM
Toluene	ND	0.050		mg/Kg	1	12/6/2020 7:38:50 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/6/2020 7:38:50 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/6/2020 7:38:50 AM
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%Rec	1	12/6/2020 7:38:50 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/6/2020 7:38:50 AM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	12/6/2020 7:38:50 AM
Surr: Toluene-d8	98.1	70-130		%Rec	1	12/6/2020 7:38:50 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/6/2020 7:38:50 AM
Surr: BFB	100	70-130		%Rec	1	12/6/2020 7:38:50 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-04 0.5'
Project: Todd 36 G State 8
Collection Date: 12/1/2020 9:50:00 AM
Lab ID: 2012243-004 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 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	12/8/2020 12:14:45 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2020 12:14:45 PM
Surr: DNOP	110	30.4-154		%Rec	1	12/8/2020 12:14:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	59		mg/Kg	20	12/9/2020 9:13:46 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 8:06:00 AM
Toluene	ND	0.050		mg/Kg	1	12/6/2020 8:06:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/6/2020 8:06:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 8:06:00 AM
Surr: 1,2-Dichloroethane-d4	93.1	70-130		%Rec	1	12/6/2020 8:06:00 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/6/2020 8:06:00 AM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	12/6/2020 8:06:00 AM
Surr: Toluene-d8	97.8	70-130		%Rec	1	12/6/2020 8:06:00 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/6/2020 8:06:00 AM
Surr: BFB	97.6	70-130		%Rec	1	12/6/2020 8:06:00 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-005 **Matrix:** SOIL

Client Sample ID: BS20-05 0.5'
Collection Date: 12/2/2020 12:00:00 PM
Received Date: 12/4/2020 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	9.7		mg/Kg	1	12/7/2020 9:42:39 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2020 9:42:39 AM
Surr: DNOP	99.9	30.4-154		%Rec	1	12/7/2020 9:42:39 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	120	60		mg/Kg	20	12/9/2020 9:26:11 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	12/5/2020 9:04:33 PM
Toluene	ND	0.048		mg/Kg	1	12/5/2020 9:04:33 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/5/2020 9:04:33 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/5/2020 9:04:33 PM
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	12/5/2020 9:04:33 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/5/2020 9:04:33 PM
Surr: Dibromofluoromethane	116	70-130		%Rec	1	12/5/2020 9:04:33 PM
Surr: Toluene-d8	99.9	70-130		%Rec	1	12/5/2020 9:04:33 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/5/2020 9:04:33 PM
Surr: BFB	103	70-130		%Rec	1	12/5/2020 9:04:33 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-006 **Matrix:** SOIL

Client Sample ID: BS20-06 0.5'
Collection Date: 12/2/2020 12:10:00 PM
Received Date: 12/4/2020 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	9.8		mg/Kg	1	12/7/2020 10:10:56 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2020 10:10:56 AM
Surr: DNOP	106	30.4-154		%Rec	1	12/7/2020 10:10:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	12/9/2020 9:38:36 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 12:24:38 AM
Toluene	ND	0.049		mg/Kg	1	12/6/2020 12:24:38 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 12:24:38 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 12:24:38 AM
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	12/6/2020 12:24:38 AM
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	12/6/2020 12:24:38 AM
Surr: Dibromofluoromethane	115	70-130		%Rec	1	12/6/2020 12:24:38 AM
Surr: Toluene-d8	95.5	70-130		%Rec	1	12/6/2020 12:24:38 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2020 12:24:38 AM
Surr: BFB	104	70-130		%Rec	1	12/6/2020 12:24:38 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-007 **Matrix:** SOIL

Client Sample ID: BS20-07 0.5'
Collection Date: 12/2/2020 12:20:00 PM
Received Date: 12/4/2020 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	9.6		mg/Kg	1	12/7/2020 10:20:25 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2020 10:20:25 AM
Surr: DNOP	95.5	30.4-154		%Rec	1	12/7/2020 10:20:25 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	12/9/2020 9:51:00 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 12:39:09 PM
Toluene	ND	0.049		mg/Kg	1	12/6/2020 12:39:09 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 12:39:09 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 12:39:09 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	12/6/2020 12:39:09 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/6/2020 12:39:09 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	12/6/2020 12:39:09 PM
Surr: Toluene-d8	102	70-130		%Rec	1	12/6/2020 12:39:09 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2020 12:39:09 PM
Surr: BFB	105	70-130		%Rec	1	12/6/2020 12:39:09 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-08 2.5'
Project: Todd 36 G State 8
Collection Date: 12/2/2020 12:30:00 PM
Lab ID: 2012243-008 **Matrix:** SOIL **Received Date:** 12/4/2020 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	9.1		mg/Kg	1	12/7/2020 10:29:55 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/7/2020 10:29:55 AM
Surr: DNOP	95.7	30.4-154		%Rec	1	12/7/2020 10:29:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	12/9/2020 10:03:24 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 1:07:57 PM
Toluene	ND	0.050		mg/Kg	1	12/6/2020 1:07:57 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/6/2020 1:07:57 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 1:07:57 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	12/6/2020 1:07:57 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/6/2020 1:07:57 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	12/6/2020 1:07:57 PM
Surr: Toluene-d8	103	70-130		%Rec	1	12/6/2020 1:07:57 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/6/2020 1:07:57 PM
Surr: BFB	108	70-130		%Rec	1	12/6/2020 1:07:57 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-009 **Matrix:** SOIL

Client Sample ID: WS20-01 0-0.5'
Collection Date: 12/1/2020 10:30:00 AM
Received Date: 12/4/2020 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	9.9		mg/Kg	1	12/7/2020 10:39:26 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2020 10:39:26 AM
Surr: DNOP	106	30.4-154		%Rec	1	12/7/2020 10:39:26 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	12/9/2020 10:15:48 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	12/6/2020 1:36:43 PM
Toluene	ND	0.049		mg/Kg	1	12/6/2020 1:36:43 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 1:36:43 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/6/2020 1:36:43 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/6/2020 1:36:43 PM
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	12/6/2020 1:36:43 PM
Surr: Dibromofluoromethane	110	70-130		%Rec	1	12/6/2020 1:36:43 PM
Surr: Toluene-d8	100	70-130		%Rec	1	12/6/2020 1:36:43 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2020 1:36:43 PM
Surr: BFB	102	70-130		%Rec	1	12/6/2020 1:36:43 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-010 **Matrix:** SOIL

Client Sample ID: WS20-02 0-0.5'
Collection Date: 12/1/2020 10:10:00 AM
Received Date: 12/4/2020 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	12/7/2020 10:48:59 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2020 10:48:59 AM
Surr: DNOP	89.9	30.4-154		%Rec	1	12/7/2020 10:48:59 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	12/9/2020 10:28:13 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.023		mg/Kg	1	12/6/2020 2:05:32 PM
Toluene	ND	0.047		mg/Kg	1	12/6/2020 2:05:32 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/6/2020 2:05:32 PM
Xylenes, Total	ND	0.094		mg/Kg	1	12/6/2020 2:05:32 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/6/2020 2:05:32 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/6/2020 2:05:32 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	12/6/2020 2:05:32 PM
Surr: Toluene-d8	100	70-130		%Rec	1	12/6/2020 2:05:32 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/6/2020 2:05:32 PM
Surr: BFB	107	70-130		%Rec	1	12/6/2020 2:05:32 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-011 **Matrix:** SOIL

Client Sample ID: WS20-03 0-0.5'
Collection Date: 12/1/2020 12:40:00 PM
Received Date: 12/4/2020 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	9.3		mg/Kg	1	12/7/2020 10:58:33 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2020 10:58:33 AM
Surr: DNOP	96.4	30.4-154		%Rec	1	12/7/2020 10:58:33 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	210	60		mg/Kg	20	12/9/2020 10:40:38 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 2:34:24 PM
Toluene	ND	0.049		mg/Kg	1	12/6/2020 2:34:24 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 2:34:24 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/6/2020 2:34:24 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/6/2020 2:34:24 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/6/2020 2:34:24 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	12/6/2020 2:34:24 PM
Surr: Toluene-d8	103	70-130		%Rec	1	12/6/2020 2:34:24 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2020 2:34:24 PM
Surr: BFB	108	70-130		%Rec	1	12/6/2020 2:34:24 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-012 **Matrix:** SOIL

Client Sample ID: WS20-04 0-0.5'
Collection Date: 12/2/2020 12:50:00 PM
Received Date: 12/4/2020 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	9.9		mg/Kg	1	12/7/2020 11:08:04 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/7/2020 11:08:04 AM
Surr: DNOP	98.1	30.4-154		%Rec	1	12/7/2020 11:08:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	260	60		mg/Kg	20	12/9/2020 10:53:03 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 3:03:24 PM
Toluene	ND	0.050		mg/Kg	1	12/6/2020 3:03:24 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/6/2020 3:03:24 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/6/2020 3:03:24 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/6/2020 3:03:24 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/6/2020 3:03:24 PM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	12/6/2020 3:03:24 PM
Surr: Toluene-d8	102	70-130		%Rec	1	12/6/2020 3:03:24 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/6/2020 3:03:24 PM
Surr: BFB	105	70-130		%Rec	1	12/6/2020 3:03:24 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-013 **Matrix:** SOIL

Client Sample ID: WS20-05 0-2.5'
Collection Date: 12/2/2020 1:00:00 PM
Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	62	47		mg/Kg	5	12/9/2020 5:01:06 PM
Motor Oil Range Organics (MRO)	2300	230		mg/Kg	5	12/9/2020 5:01:06 PM
Surr: DNOP	111	30.4-154		%Rec	5	12/9/2020 5:01:06 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	75	60		mg/Kg	20	12/9/2020 11:05:27 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 3:32:18 PM
Toluene	ND	0.049		mg/Kg	1	12/6/2020 3:32:18 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 3:32:18 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 3:32:18 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/6/2020 3:32:18 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	12/6/2020 3:32:18 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	12/6/2020 3:32:18 PM
Surr: Toluene-d8	102	70-130		%Rec	1	12/6/2020 3:32:18 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2020 3:32:18 PM
Surr: BFB	110	70-130		%Rec	1	12/6/2020 3:32:18 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 **2012243**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36 G State 8
Lab ID: 2012243-014 **Matrix:** SOIL

Client Sample ID: WS20-06 0-2.5'
Collection Date: 12/2/2020 1:20:00 PM
Received Date: 12/4/2020 8:00:00 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	12/8/2020 9:14:15 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2020 9:14:15 AM
Surr: DNOP	85.4	30.4-154		%Rec	1	12/8/2020 9:14:15 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	12/9/2020 11:42:41 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 4:01:15 PM
Toluene	ND	0.049		mg/Kg	1	12/6/2020 4:01:15 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 4:01:15 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 4:01:15 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/6/2020 4:01:15 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/6/2020 4:01:15 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	12/6/2020 4:01:15 PM
Surr: Toluene-d8	97.7	70-130		%Rec	1	12/6/2020 4:01:15 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2020 4:01:15 PM
Surr: BFB	104	70-130		%Rec	1	12/6/2020 4:01:15 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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#: **2012243**

11-Dec-20

Client: Devon Energy

Project: Todd 36 G State 8

Sample ID: **MB-56899**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **56899**	RunNo: **73916**
Prep Date: **12/9/2020**	Analysis Date: **12/9/2020**	SeqNo: **2606681** Units: **mg/Kg**

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

Sample ID: **LCS-56899**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **56899**	RunNo: **73916**
Prep Date: **12/9/2020**	Analysis Date: **12/9/2020**	SeqNo: **2606682** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.2	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#: **2012243**
11-Dec-20

Client: Devon Energy
Project: Todd 36 G State 8

Sample ID: **MB-56810**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **56810**	RunNo: **73838**
Prep Date: **12/5/2020**	Analysis Date: **12/7/2020**	SeqNo: **2603181** 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		108	30.4	154			

Sample ID: **LCS-56810**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **56810**	RunNo: **73838**
Prep Date: **12/5/2020**	Analysis Date: **12/7/2020**	SeqNo: **2603183** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	103	70	130			
Surr: DNOP	5.3		5.000		106	30.4	154			

Sample ID: **2012243-005AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-05 0.5'**	Batch ID: **56810**	RunNo: **73838**
Prep Date: **12/5/2020**	Analysis Date: **12/7/2020**	SeqNo: **2603188** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.9	49.46	0	97.6	15	184	3.41	23.9	
Surr: DNOP	5.0		4.946		101	30.4	154	0	0	

Sample ID: **2012243-005AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-05 0.5'**	Batch ID: **56810**	RunNo: **73838**
Prep Date: **12/5/2020**	Analysis Date: **12/7/2020**	SeqNo: **2603189** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.0	44.84	0	104	15	184			
Surr: DNOP	4.9		4.484		108	30.4	154			

Sample ID: **LCS-56809**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **56809**	RunNo: **73877**
Prep Date: **12/5/2020**	Analysis Date: **12/8/2020**	SeqNo: **2605170** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	105	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#: **2012243**
11-Dec-20

Client: Devon Energy
Project: Todd 36 G State 8

Sample ID: **MB-56809**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **56809**	RunNo: **73877**							
Prep Date: **12/5/2020**	Analysis Date: **12/8/2020**	SeqNo: **2605176**	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	12		10.00		116	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#: **2012243**
11-Dec-20

Client: Devon Energy
Project: Todd 36 G State 8

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**							
Client ID: **PBS**	Batch ID: **S73810**	RunNo: **73810**							
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601700**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		100	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.48		0.5000		96.6	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**							
Client ID: **LCSS**	Batch ID: **S73810**	RunNo: **73810**							
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601701**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.9	70	130			
Surr: Toluene-d8	0.48		0.5000		95.4	70	130			

Sample ID: **mb-56807**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**							
Client ID: **PBS**	Batch ID: **56807**	RunNo: **73810**							
Prep Date: **12/4/2020**	Analysis Date: **12/5/2020**	SeqNo: **2601713**	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	0.53		0.5000		106	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.56		0.5000		113	70	130			
Surr: Toluene-d8	0.49		0.5000		98.9	70	130			

Sample ID: **lcs-56807**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**							
Client ID: **BatchQC**	Batch ID: **56807**	RunNo: **73810**							
Prep Date: **12/4/2020**	Analysis Date: **12/5/2020**	SeqNo: **2601715**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	110	80	120			
Toluene	1.1	0.050	1.000	0	107	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.3	0.10	3.000	0	110	80	120			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		107	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			

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#: **2012243**
11-Dec-20

Client: Devon Energy
Project: Todd 36 G State 8

Sample ID: **lcs-56807** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **56807** RunNo: **73810**
Prep Date: **12/4/2020** Analysis Date: **12/5/2020** SeqNo: **2601715** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.58		0.5000		116	70	130			
Surr: Toluene-d8	0.49		0.5000		97.3	70	130			

Sample ID: **mb-56806** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **56806** RunNo: **73811**
Prep Date: **12/4/2020** Analysis Date: **12/5/2020** SeqNo: **2601889** 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	0.47		0.5000		94.9	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		107	70	130			
Surr: Toluene-d8	0.47		0.5000		94.1	70	130			

Sample ID: **lcs-56806** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **56806** RunNo: **73811**
Prep Date: **12/4/2020** Analysis Date: **12/5/2020** SeqNo: **2601890** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	106	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.2	80	120			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.7	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.47		0.5000		93.9	70	130			

Sample ID: **2012243-006ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-06 0.5'** Batch ID: **56807** RunNo: **73824**
Prep Date: **12/4/2020** Analysis Date: **12/6/2020** SeqNo: **2602750** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9872	0	100	71.1	115			
Toluene	1.1	0.049	0.9872	0	108	79.6	132			
Ethylbenzene	1.1	0.049	0.9872	0	109	83.8	134			
Xylenes, Total	3.4	0.099	2.962	0	115	82.4	132			

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#: **2012243**
11-Dec-20

Client: Devon Energy
Project: Todd 36 G State 8

Sample ID: **2012243-006ams**	SampType: **MS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-06 0.5'**	Batch ID: **56807**	RunNo: **73824**
Prep Date: **12/4/2020**	Analysis Date: **12/6/2020**	SeqNo: **2602750** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.50		0.4936		102	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.4936		98.7	70	130			
Surr: Dibromofluoromethane	0.53		0.4936		107	70	130			
Surr: Toluene-d8	0.50		0.4936		102	70	130			

Sample ID: **2012243-006amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-06 0.5'**	Batch ID: **56807**	RunNo: **73824**
Prep Date: **12/4/2020**	Analysis Date: **12/6/2020**	SeqNo: **2602751** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9804	0	107	71.1	115	5.71	20	
Toluene	1.1	0.049	0.9804	0	110	79.6	132	0.754	20	
Ethylbenzene	1.1	0.049	0.9804	0	110	83.8	134	0.575	20	
Xylenes, Total	3.4	0.098	2.941	0	116	82.4	132	0.132	20	
Surr: 1,2-Dichloroethane-d4	0.51		0.4902		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4902		100	70	130	0	0	
Surr: Dibromofluoromethane	0.53		0.4902		107	70	130	0	0	
Surr: Toluene-d8	0.50		0.4902		101	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012243**

11-Dec-20

Client: Devon Energy

Project: Todd 36 G State 8

Sample ID: **mb1** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **G73810** RunNo: **73810**
Prep Date: Analysis Date: **12/5/2020** SeqNo: **2601720** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	530		500.0		105	70	130			

Sample ID: **2.5ug gro lcs** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **G73810** RunNo: **73810**
Prep Date: Analysis Date: **12/5/2020** SeqNo: **2601721** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	530		500.0		106	70	130			

Sample ID: **mb-56807** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **56807** RunNo: **73810**
Prep Date: **12/4/2020** Analysis Date: **12/5/2020** SeqNo: **2601733** 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	530		500.0		105	70	130			

Sample ID: **lcs-56807** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **56807** RunNo: **73810**
Prep Date: **12/4/2020** Analysis Date: **12/5/2020** SeqNo: **2601734** 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	89.6	70	130			
Surr: BFB	530		500.0		105	70	130			

Sample ID: **2012243-005ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BS20-05 0.5'** Batch ID: **56807** RunNo: **73810**
Prep Date: **12/4/2020** Analysis Date: **12/5/2020** SeqNo: **2601736** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.39	0	93.4	49.2	122			
Surr: BFB	500		487.8		102	70	130			

Sample ID: **2012243-005amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BS20-05 0.5'** Batch ID: **56807** RunNo: **73810**
Prep Date: **12/4/2020** Analysis Date: **12/5/2020** SeqNo: **2601737** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.18	0	94.3	49.2	122	0.0632	20	
Surr: BFB	500		483.6		102	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#: **2012243**

11-Dec-20

Client: Devon Energy

Project: Todd 36 G State 8

Sample ID: **mb-56806**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **56806**	RunNo: **73811**
Prep Date: **12/4/2020**	Analysis Date: **12/5/2020**	SeqNo: **2601930** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	490		500.0		97.6	70	130			

Sample ID: **lcs-56806**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **56806**	RunNo: **73811**
Prep Date: **12/4/2020**	Analysis Date: **12/5/2020**	SeqNo: **2601931** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.0	70	130			
Surr: BFB	510		500.0		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

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: **2012243** RcptNo: 1

Received By: **Sean Livingston** **12/4/2020 8:00:00 AM** Sean Livingston

Completed By: **Desiree Dominguez** **12/4/2020 9:21:19 AM** DD

Reviewed By: SGL ~~12/4/20~~ 12/4/20
SGL 12/4/20

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

10 12/04/20

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	0.1	Good				
2	0.2	Good				
3	1.5	Good				

Chain-of-Custody Record

Client: Devon Energy

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day
☐ Standard ☐ Rush

Project Name: Todd 36 G State 8

Project #: 00141
20E-

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): See Remarks (°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. 2012243	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)
12/1	9:30	Soil	BS20-01 0.5	4oz	ice	-001	✓	✓					✓			
12/1	11:00		BS20-02 0.5'			-002										
12/1	9:40		BS20-03 0.5'			-003										
12/1	9:50		BS20-04 0.5'			-004										
12/2	12:00		BS20-05 0.5'			-005										
12/2	12:10		BS20-06 0.5'			-006										
12/2	12:20		BS20-07 0.5'			-007										
12/2	12:30		BS20-08 2.5'			-008										
12/1	10:30		WS20-01 0-0.5			-009										
12/1	10:10		WS20-02 0-0.5			-010										
12/1	12:40		WS20-03 0-0.5			-011										
12/2	12:50	↓	WS20-04 0-0.5'	↓	↓	-012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			CCummings		12/3/20	1135
Date: 12/3/20	Time: 1900	Relinquished by: CCummings	Received by: SGL	Via: Courier	Date: 12/4/20	Time: 8:00

Remarks: Direct bill Devon
CC: Natalie Gordon
0.3-0.2=0.1°C
0.4-0.2=0.2°C
1.7-0.2=1.5°C

W/O # 2080 1063

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:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day
☐ Standard ☐ Rush

Project Name: Todd 36 G State 8

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): See remarks (°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. 2012243	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)
12/2	1:00	Soil	WS20-05 0-2.5'	4oz	ice	-013	✓	✓					✓			
12/2	1:20	Soil	WS20-06 0-2.5	4oz	ice	-014	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			Acummings		12/3/20	1135
12/3/20	1900	Acummings	SGL	courier	12/4/20	8:00

Remarks: Direct bill Devon 0.3-0.2=0.1'C
CC: Natalie Gordon 0.4-0.2=0.2
1.7-0.2=1.5'

w/o#: 20801063

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

December 29, 2020

Amanda Davis

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

RE: Todd 36G State 8 OrderNo.: 2012A67

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/22/2020 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 **2012A67**
Date Reported: **12/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 36G State 8
Lab ID: 2012A67-001 **Matrix:** SOIL

Client Sample ID: WS20-05
Collection Date: 12/18/2020 1:50:00 PM
Received Date: 12/22/2020 7:45:00 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	12/23/2020 6:16:44 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/23/2020 6:16:44 PM
Surr: DNOP	88.4	30.4-154		%Rec	1	12/23/2020 6:16:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/24/2020 8:37:26 PM
Surr: BFB	87.1	75.3-105		%Rec	1	12/24/2020 8:37:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/24/2020 8:37:26 PM
Toluene	ND	0.049		mg/Kg	1	12/24/2020 8:37:26 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/24/2020 8:37:26 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/24/2020 8:37:26 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	12/24/2020 8:37:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	150	59		mg/Kg	20	12/29/2020 4:15:15 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#: **2012A67**

29-Dec-20

Client: Devon Energy

Project: Todd 36G State 8

Sample ID: **MB-57240**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **57240**	RunNo: **74266**							
Prep Date: **12/28/2020**	Analysis Date: **12/28/2020**	SeqNo: **2621651**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-57240**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **57240**	RunNo: **74266**							
Prep Date: **12/28/2020**	Analysis Date: **12/28/2020**	SeqNo: **2621652**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.8	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#: **2012A67**
29-Dec-20

Client: Devon Energy
Project: Todd 36G State 8

Sample ID: **MB-57166** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **57166** RunNo: **74226**
Prep Date: **12/22/2020** Analysis Date: **12/23/2020** SeqNo: **2620092** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		102	30.4	154			

Sample ID: **LCS-57166** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **57166** RunNo: **74226**
Prep Date: **12/22/2020** Analysis Date: **12/23/2020** SeqNo: **2620093** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	10	50.00	0	122	68.9	141			
Surr: DNOP	6.2		5.000		124	30.4	154			

Sample ID: **MB-57161** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **57161** RunNo: **74226**
Prep Date: **12/22/2020** Analysis Date: **12/23/2020** SeqNo: **2620094** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.7		10.00		96.9	30.4	154			

Sample ID: **LCS-57161** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **57161** RunNo: **74226**
Prep Date: **12/22/2020** Analysis Date: **12/23/2020** SeqNo: **2620095** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		102	30.4	154			

Sample ID: **2012A67-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS20-05** Batch ID: **57166** RunNo: **74226**
Prep Date: **12/22/2020** Analysis Date: **12/23/2020** SeqNo: **2620115** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	9.7	48.50	3.244	103	15	184			
Surr: DNOP	5.2		4.850		107	30.4	154			

Sample ID: **2012A67-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS20-05** Batch ID: **57166** RunNo: **74226**
Prep Date: **12/22/2020** Analysis Date: **12/23/2020** SeqNo: **2620116** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	8.9	44.60	3.244	104	15	184	7.18	23.9	

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#: **2012A67**
29-Dec-20

Client: Devon Energy
Project: Todd 36G State 8

Sample ID: **2012A67-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS20-05** Batch ID: **57166** RunNo: **74226**
Prep Date: **12/22/2020** Analysis Date: **12/23/2020** SeqNo: **2620116** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		4.460		114	30.4	154	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#: **2012A67**

29-Dec-20

Client: Devon Energy

Project: Todd 36G State 8

Sample ID: **lcs-57159**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **57159**	RunNo: **74246**
Prep Date: **12/22/2020**	Analysis Date: **12/24/2020**	SeqNo: **2620922** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.5	72.5	106			
Surr: BFB	1000		1000		99.6	75.3	105			

Sample ID: **lcs-57178**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **57178**	RunNo: **74246**
Prep Date: **12/23/2020**	Analysis Date: **12/25/2020**	SeqNo: **2620923** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	980		1000		97.9	75.3	105			

Sample ID: **mb-57159**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **57159**	RunNo: **74246**
Prep Date: **12/22/2020**	Analysis Date: **12/25/2020**	SeqNo: **2620925** 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	900		1000		90.1	75.3	105			

Sample ID: **mb-57178**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **57178**	RunNo: **74246**
Prep Date: **12/23/2020**	Analysis Date: **12/25/2020**	SeqNo: **2620926** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	880		1000		87.8	75.3	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#: **2012A67**

29-Dec-20

Client: Devon Energy

Project: Todd 36G State 8

Sample ID: **2012a67-001ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **WS20-05** Batch ID: **57159** RunNo: **74246**

Prep Date: **12/22/2020** Analysis Date: **12/24/2020** SeqNo: **2620951** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.024	0.9470	0	90.0	76.3	120			
Toluene	0.89	0.047	0.9470	0.008993	92.9	78.5	120			
Ethylbenzene	0.89	0.047	0.9470	0	94.2	78.1	124			
Xylenes, Total	2.7	0.095	2.841	0.01623	95.3	79.3	125			
Surr: 4-Bromofluorobenzene	0.98		0.9470		104	80	120			

Sample ID: **2012a67-001amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **WS20-05** Batch ID: **57159** RunNo: **74246**

Prep Date: **12/22/2020** Analysis Date: **12/24/2020** SeqNo: **2620952** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.024	0.9747	0	94.0	76.3	120	7.24	20	
Toluene	0.94	0.049	0.9747	0.008993	95.6	78.5	120	5.69	20	
Ethylbenzene	0.96	0.049	0.9747	0	98.4	78.1	124	7.29	20	
Xylenes, Total	2.9	0.097	2.924	0.01623	99.4	79.3	125	7.00	20	
Surr: 4-Bromofluorobenzene	1.1		0.9747		108	80	120	0	0	

Sample ID: **LCS-57159** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **57159** RunNo: **74246**

Prep Date: **12/22/2020** Analysis Date: **12/24/2020** SeqNo: **2620985** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	0.96	0.050	1.000	0	96.1	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.2	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID: **LCS-57178** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **57178** RunNo: **74246**

Prep Date: **12/23/2020** Analysis Date: **12/25/2020** SeqNo: **2620986** 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-57159** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **57159** RunNo: **74246**

Prep Date: **12/22/2020** Analysis Date: **12/25/2020** SeqNo: **2620988** 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#: **2012A67**

29-Dec-20

Client: Devon Energy

Project: Todd 36G State 8

Sample ID: **mb-57159**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **57159**	RunNo: **74246**							
Prep Date: **12/22/2020**	Analysis Date: **12/25/2020**	SeqNo: **2620988**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID: **mb-57178**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **57178**	RunNo: **74246**							
Prep Date: **12/23/2020**	Analysis Date: **12/25/2020**	SeqNo: **2620989**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Qualifiers:

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

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: **2012A67** RcptNo: **1**

Received By: **Isaiah Ortiz** **12/22/2020 7:45:00 AM** I_Ok

Completed By: **Isaiah Ortiz** **12/22/2020 8:04:59 AM** I_Ok

Reviewed By: JR 12/22/20

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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
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: SGL 12/22/20

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Not Present			
2	1.2	Good	Not Present			
3	1.6	Good	Not Present			

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
☒ Standard ☐ Rush

Project Name: Todd 36 G State #8

Project #: 20E-00141-055

Project Manager: Natalie Gordon

Sampler: J.H

On Ice: ☒ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): See Remarks (°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. 2012A67	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)
12-18	1:50	0-2.5'	WS20-05	4oz	Ice	001	X	X					X			

Relinquished by:	Received by:	Via:	Date Time
			12/21/20 1400
	IO courier		12/22/20 0745

Remarks: CC: Natalie Gordon
Directbill Devon
W/O#20801063

coolers
1.3±0
1.7±0
1.6±0

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 25253

CONDITIONS

Operator: Pima Environmental Services, LLC 5614 N Lovington Hwy Hobbs, NM 88240	OGRID: 329999
	Action Number: 25253
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	9/16/2022