July 30, 2020 Vertex Project #: 20E-00141-037

Spill Closure Report: Todd 26G Federal 1
Unit P, Section 26, Township 23 South, Range 31 East
County: Eddy
API: 30-015-20242
Tracking Number: NAB1808526921

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 a produced water release that occurred near Todd 26G Federal 1, API 30-015-20242 (hereafter referred to as "Todd 26"). Devon provided immediate notification of the spill to New Mexico Oil Conservation Division (NM OCD) District 2 and the Bureau of Land Management (BLM), who own the property, on March 7, 2018. The initial C-141 Release Notification was submitted on March 20, 2018 (Attachment 1). The tracking number assigned to this incident is NAB1808526921.

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 March 7, 2018, a release occurred near Todd 26 when a leak developed in the tin horn at a junction on the injection line. This incident resulted in the release of approximately 28 barrels (bbls) of produced water onto the right of way (ROW) where the line is located. No produced water was recovered from the spill site. The release occurred off-lease, but no produced water was released into sensitive areas or waterways.

Site Characterization

The release associated with Todd 26 occurred on privately-owned land, N 32.269439, W 103.744157, approximately 20 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.

Todd 26 is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas transportation via surface and subsurface lines. The following sections specifically describe the area in which the affected ROW and Todd 26 release are located.

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

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

There is no surface water located at the release site near Todd 26. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 3.9 miles west-southwest of the release site (United States Fish and Wildlife Service, 2020). The closest continuously flowing watercourse is the Pecos River, located approximately 16 miles west of the site (United States Department of the Interior, United States Geological Survey, 2020b). A freshwater stock pond is located approximately 0.6 miles east of the release site (United States Fish and Wildlife Service, 2020). At Todd 26, there are no continuously flowing watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features nearby as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest active groundwater well to Todd 26 is a New Mexico Office of the State Engineer (NM OSE)-identified well from 2013, located approximately 0.4 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 near Todd 26 is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site are determined to be associated with constituent concentration limits based on depth to groundwater. However, the location of the spill off-lease in a ROW stipulates that reclamation of the site following remediation activities is warranted. To meet the reclamation requirements as outlined in 19.15.29.13 NMAC, the below constituent concentration limits were used.

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

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

Remedial Actions

As a significant amount of time has passed since the release near Todd 26, it was believed that the site would not require remediation. On March 24, 2020, Vertex provided 48-hour notification of confirmation sampling to NM OCD and the BLM (Attachment 4) as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC. On March 27, 2020, Vertex was on-site to conduct an initial spill inspection and site characterization, and collect confirmatory samples, if possible. Initial field screening activities indicated that all constituents of concern within the area of potential impact from this release were below closure criteria as outlined in Table 1 and confirmatory sampling could commence. The Daily Field Report (DFR) associated with the site activities is included in Attachment 5.

A total of four five-point composite confirmatory samples were collected from the surface within the area of potential impact where the release occurred. Each composite sample was representative of no more than 200 square feet, per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NM OCD approval. The composite samples were placed into laboratory-provided containers, preserved on ice, and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and Environmental Protection Agency (EPA) Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sampling analytical data are summarized in Table 2 (Attachment 6). Laboratory data reports and chain of custody forms are included in Attachment 7.

A GeoExplorer 7000 Series Trimble global positioning system (GPS) unit, or equivalent, was used to map the approximate center of each of the five-point composite samples. The confirmatory sample locations are presented on Figure 1 (Attachment 2).

Closure Request

Vertex recommends no additional remediation action to address the release near Todd 26. Laboratory analyses of the confirmatory samples showed constituent of concern concentration levels below NM OCD reclamation criteria for areas off-lease, as shown in Table 1. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Because the area did not require remediation activities, the vegetation remains intact and appears healthy. Vertex requests that this incident (NAB1808526921) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC and reclamation requirements set forth in Subsection D of 19.15.29.13 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 March 7, 2018, release near Todd 26.

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

Sincerely,

Natalie Gordon
PROJECT MANAGER

Attachments

Attachment 1. NM OCD C-141 Release Notification
Attachment 2. Site Schematic and Confirmatory Sampling Locations
Attachment 3. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
Attachment 4. Required 48-hr Notification of Confirmatory Sampling to Regulatory Agencies
Attachment 5. Daily Field Report(s) with Photographs
Attachment 6. Confirmatory Sampling Laboratory Data Results
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). *Caves and Karst in the U.S. National Park Service*. Retrieved from https://www.arcgis.com/home/webmap/viewer.html?webmap=14675403c37948129acb758138f2dd1e

United States Department of the Interior, United States Geological Survey. (2020b). *Groundwater for New Mexico: Water Levels*. Retrieved from https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?.

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
MAR 20 2018
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 April 3, 2017

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

Release Notification and Corrective Action

nAB1808526921

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company 6137	Contact Merle Lewis, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No. 575-748-3371
Facility Name Todd 26G Federal 1 (Release occurred on the right of way referenced in Lat/Long section below)	Facility Type Gas

Surface Owner Private	Mineral Owner Federal	API No. 30-015-20242

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	26	23S	31E					Eddy

Latitude_32.269439 N_ **Longitude**_-103.744157 W_ NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 28bbls	Volume Recovered None
Source of Release	Date and Hour of Occurrence March 7, 2018 @ 12:35 AM MST	Date and Hour of Discovery March 7, 2018 @ 12:35 AM MST
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher & Crystal Weaver, NMOCD Tammy Thonea, NMSLO Shelly Tucker, BLM	
By Whom? Mike Shoemaker, EHS Representative	Date and Hour March 7, 2018 @ 7:32 PM MST	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
The leak occurred in the tin horn at a junction on the injection line. The line was immediately shut in and isolated to stop any further release from occurring.

Describe Area Affected and Cleanup Action Taken.*
Approximately 28bbls of produced water was released with no fluids being recovered. An environmental contractor will be contacted to assist with delineation and remediation efforts.

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

Signature: Michael Shoemaker	OIL CONSERVATION DIVISION
Printed Name: Michael Shoemaker	Approved by Environmental Specialist: Signed By Mike Bratcher
Title: Environmental Professional	Approval Date: 3/23/18 Expiration Date: N/A
E-mail Address: mike.shoemaker@dvn.com	Conditions of Approval: See attached Attached ☐
Date: 03/20/18 Phone: 575.748.3371	

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 3/20/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4607 has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 4/20/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

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

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

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

- Composite sampling is not generally allowed.

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

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

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

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

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

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

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

Bratcher, Mike, EMNRD

From: Shoemaker, Mike <Mike.Shoemaker@dvn.com>
Sent: Tuesday, March 20, 2018 7:15 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Shelly Tucker (stucker@blm.gov)
Cc: Fulks, Brett; DeLaRosa, Dana
Subject: Todd 26G Federal 1_28BBLS PW_3.7.2018
Attachments: Todd 26G Federal 1_28bbls PW_3.7.2018_ GIS Image.pdf; Todd 26G SWD_28BBLS PW_3.7.2018_Intial C141.doc

Good Evening,

Attached you will find the C141 and the GIS image for the 28BBL produced water release that occurred at the Todd 26G Federal 1 on 3.7.2018. The red dot on the GIS image represents the origin of release.

Thank you,

Mike Shoemaker
EHS Representative

Devon Energy Corporation
6488 Seven Rivers Highway
Artesia, New Mexico 88210
575-746-5566 Office
575-513-5035 Mobile

devon

Todd 26G Federal 1

28 bbls produced water

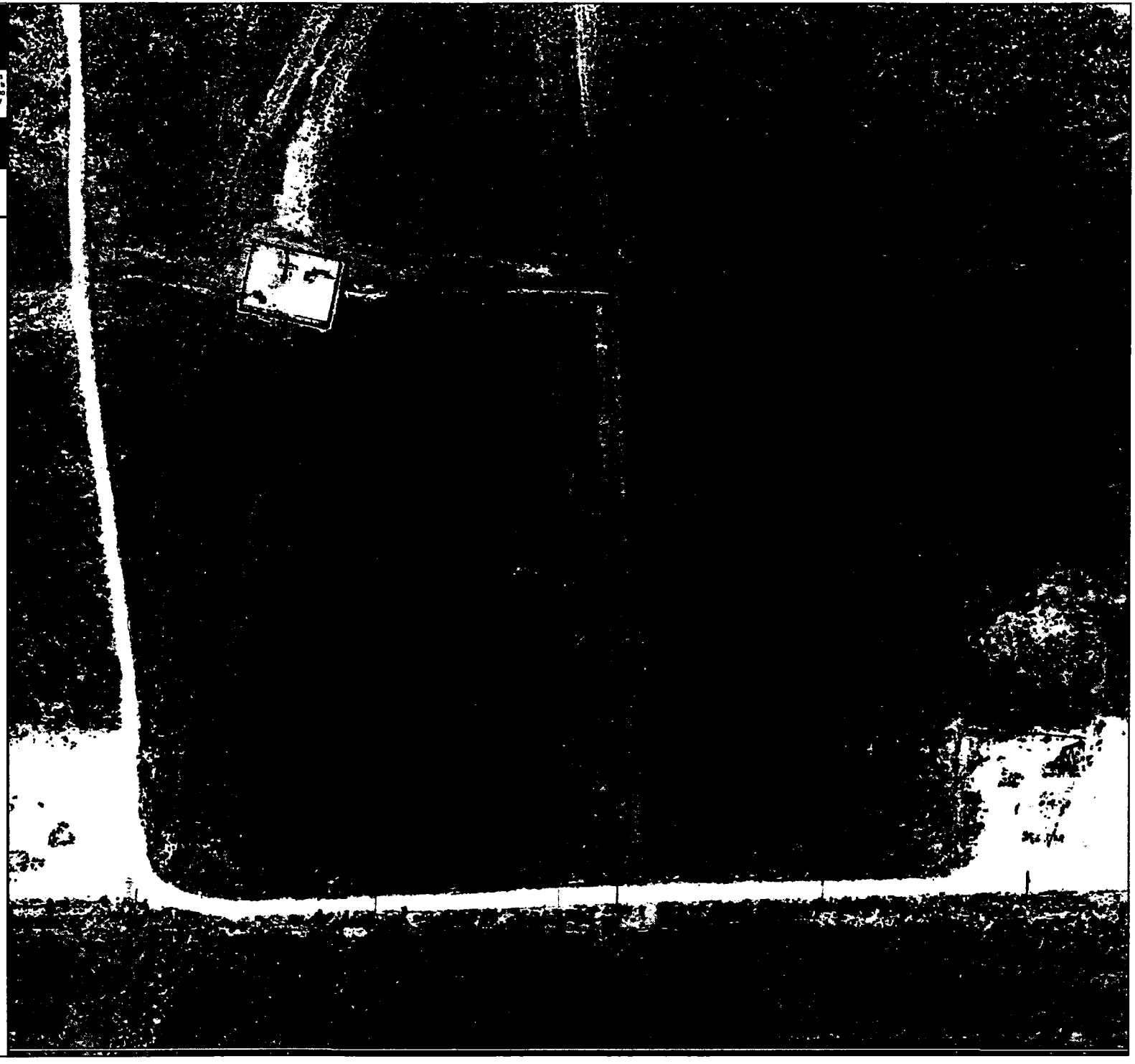
devon

This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: Mike Shoemaker
Map is current as of: 20-Mar-2018

N

Miles
0 0.01 0.02 0.04 1:1,779



Bratcher, Mike, EMNRD

From: Shoemaker, Mike <Mike.Shoemaker@dvn.com>
Sent: Wednesday, March 7, 2018 7:32 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Honea, Tammy; Shelly Tucker (stucker@blm.gov)
Subject: Todd 26 G Federal 1 (API #30-015-20242)

Good Evening,

Devon had a release occur at 12:35 AM MST on 03/07/18. The incident is described below.

1. Todd 26 G Federal 1 (API #30-015-20242) the point of the release was on the Right of Way at the following GPS coordinates (Lat:32.269439 N, Long: 103.744157 W).
    a. The leak occurred in the tin horn at a junction on injection Line. Approximately 28.24 bbls of produced water was release and none was recovered.

My GIS layers on my computer are having issues this evening in turn I believe this is Private Surface/State Minerals so I have included the SLO. I have also included BLM as a precautionary measure. I will further review tomorrow morning and provide everyone with an update on Surface and Mineral ownership.

A C-141 will be prepared and submitted with GPS coordinates of the area affected.

If you have any questions please let me know.

Thanks,

Mike Shoemaker
EHS Representative

Devon Energy Corporation
6488 Seven Rivers Highway
Artesia, New Mexico 88210
575-746-5566 Office
575-513-5035 Mobile

State of New Mexico
Oil Conservation Division

Incident ID	NAB1808526921
District RP	2RP-4677
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?	430 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1808526921
District RP	2RP-4677
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: Amanda Davis . Title: EHS Professional .

Signature: Amanda Davis Date: 7/10/2020

email: amanda.davis@dvn.com Telephone: 575-748-0176

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1808526921
District RP	2RP-4677
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: Amanda Davis Title: EHS Professional

Signature: Amanda Davis Date: 7/10/2020

email: amanda.davis@dvn.com Telephone: 575-748-0176

OCD Only

Received by: Chad Hensley Date: 04/19/2021

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: Chad Hensley Date: 04/19/2021

Printed Name: Chad Hensley Title: Environmental Specialist Advanced

ATTACHMENT 2

● Base Sample

VERTEX

0 5 10 20 Feet

Map Center:
Lat/Long: 32.269473, -103.744147

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

N

Site Schematic and Confirmatory Sampling Locations
Todd 26G Fed 1

FIGURE:
1

devon

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

Note: Imagery from ESRI, 2018.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-00141\037 - Todd 26G Federal 1\Figure 2 Confirmatory Schematic Todd 26G Fed 1 Flatline Pasture Spill.mxd

ATTACHMENT 3

Closure Criteria Determination			
Site Name: Todd 26 G Fed 1			
Spill Coordinates:		X: 32.27720	Y: -103.74650
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**430**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	21,029	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	5,494	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	26,655	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**	2,601	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	17,352	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)		Critical High Medium Low
10	Within a 100-year Floodplain	No	year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		>100'	<50' 51-100' >100'

Todd 26 G Fed 1 - Nearest OSE Well

6/30/2020, 1:06:20 PM

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

OSE District Boundary

GIS WATERS PODs

- Active
- Pending

Conveyances

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

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
Water Column/Average Depth to Water

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02258	C	ED		3	2	26	23S	31E	618055	3571853*	8	662		
C 02348	C	ED	1	4	3	26	23S	31E	617648	3571068	878	700	430	270
C 02405	CUB	ED		4	1	02	24S	31E	617690	3568631*	3239	275	160	115
C 02464	C	ED	3	4	1	02	24S	31E	617589	3568530*	3352	320	205	115
C 02460	C	ED			3	02	24S	31E	617496	3568022*	3868	320		
C 02460 POD2	C	ED			3	02	24S	31E	617496	3568022*	3868	320		
C 02777	CUB	ED	4	4	4	10	23S	31E	616974	3575662	3959	890		
C 03749 POD1	CUB	ED		2	2	15	23S	31E	616974	3575662	3959	865	639	226
C 03529 POD1	C	LE	2	4	3	29	23S	32E	622651	3571212	4649	550		
C 03851 POD1	CUB	LE	3	3	4	20	23S	32E	622880	3572660	4900	1392	713	679

Average Depth to Water: **429 feet**

Minimum Depth: **160 feet**

Maximum Depth: **713 feet**

Record Count: 10

UTMNAD83 Radius Search (in meters):

Easting (X): 618046.25 **Northing (Y):** 3571851 **Radius:** 5000

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

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 6416 4	Sec	Tws	Rng	X	Y	Distance
C 02258	C	PRO	0	DEVON ENERGY CORP.(NEVADA)	ED	C 02258					3 2	26	23S	31E	618055	3571853*	8
C 02348	C	STK	3	NGL WATER SOLUTIONS PERMIAN	ED	C 02348				Shallow	1 4 3	26	23S	31E	617647	3571068	879
C 02602	C	SAN	0	POGO PRODUCING COMPANY	ED	C 02602					2 2	35	23S	31E	618471	3570650*	1274
C 00225 A	CUB	IRR	8.4	GREGORY ROCKHOUSE RANCH	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3240
C 01246 AO	CUB	IRR	47.82	CATHLEEN MC INTIRE	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3240
C 02405	C	PRO	0	TEXACO EXPLORATION & PROD. IND	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3240
C 02452	C	PRO	0	TEXACO EXPLORATION & PROD INC.	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3240
					ED	C 02452					4 1	02	24S	31E	617690	3568631*	3240
C 02576	C	PRO	0	SONAT EXPLORATION COMPANY	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3240
C 02464	C	PRO	0	COMMISSIONER OF PUBLIC LANDS	ED	C 02464				Shallow	3 4 1	02	24S	31E	617589	3568530*	3352
C 02901	C	PUB	0	B & H MAINTENANCE & CONST.	ED	C 02901					3 4 1	02	24S	31E	617589	3568530*	3352
C 02460	C	PRO	0	SONAT EXPLORATION	ED	C 02460				Shallow	3	02	24S	31E	617496	3568022*	3868
					ED	C 02460 POD2				Shallow	3	02	24S	31E	617496	3568022*	3868
C 02777	CUB	MON	0	US DEPT OF ENERGY WIPP	ED	C 02777					4 4 4	10	23S	31E	616973	3575662	3958
C 03749	CUB	MON	0	US DEPARTMENT OF ENERGY	ED	C 03749 POD1				Shallow	2 2	15	23S	31E	616973	3575662	3958
C 03529	C	STK	0	ANNETTE MCCLOY	LE	C 03529 POD1					2 4 3	29	23S	32E	622651	3571212	4649
C 03851	CUB	MON	0	US DEPARTMENT OF ENERGY	LE	C 03851 POD1			NON	Artesian	3 3 4	20	23S	32E	622879	3572660	4900

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

Record Count: 17

UTMNAD83 Radius Search (in meters):

Easting (X): 618046.25 **Northing (Y):** 3571851.53 **Radius:** 5000

Sorted by: Distance

New Mexico Office of the State Engineer

Wells with Well Log Information

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD Sub-basin Code	County	Source	q 6416	q 4	q	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
C 02258	C	ED			3	2	26	23S	31E	618055	3571853*	8	09/18/1992	09/18/1992	09/25/1992	662		CORKY GLENN	421
C 02348	C	ED	Shallow	1	4	3	26	23S	31E	617648	3571068	879	10/31/2013	11/01/2013	11/07/2013	700	430	JOHN SIRMAN	1654
C 02405	CUB	ED	Shallow		4	1	02	24S	31E	617690	3568631*	3240	09/29/1994	09/30/1994	12/05/1994	275	160	COLLIS, ROBERT E.	1184
C 02464	C	ED	Shallow	3	4	1	02	24S	31E	617589	3568530*	3352	08/24/1995	08/24/1995	09/07/1995	320	205	GLENN, CLARK A."CORKY" (LD)	421
C 02460	C	ED	Shallow			3	02	24S	31E	617496	3568022*	3868	08/21/1995	08/21/1995	09/07/1995	320		GLENN, CLARK A."CORKY" (LD)	421
C 02460 POD2	C	ED	Shallow			3	02	24S	31E	617496	3568022*	3868	08/25/1995	08/25/1995	09/07/1995	320		GLENN, CLARK A."CORKY" (LD)	421
C 03749 POD1	CUB	ED	Shallow		2	2	15	23S	31E	616974	3575662	3958	07/10/2014	08/06/2014	09/11/2014	865	639	RANDY STEWART	331
C 03851 POD1	CUB	LE	Artesian	3	3	4	20	23S	32E	622880	3572660	4900	08/19/2015	10/02/2015	11/10/2015	1392	713	STEWART, RANDAL P.	1723

Record Count: 8

UTMNAD83 Radius Search (in meters):

Easting (X): 618046.25 **Northing (Y):** 3571851.53 **Radius:** 5000

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

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information ▼ Geographic Area: United States ▼ GO

Click to hideNews Bulletins

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

USGS 321609103445901 23S.31E.26.34411

Available data for this site SUMMARY OF ALL AVAILABLE DATA ▼ GO

Well Site

DESCRIPTION:

Latitude 32°16'11.9", Longitude 103°45'01.2" NAD83
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 365 feet
Land surface altitude: 3,451.00 feet above NGVD29.
Well completed in "Dewey Lake Redbeds" (312DYLK) local aquifer

AVAILABLE DATA:

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

OPERATION:

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

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

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321609103445901

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2020-03-04 08:53:58 EST
0.32 0.31 caww01

U.S. Fish and Wildlife Service
National Wetlands Inventory

Todd 26 G Fed 1 - Nearest Stock Pond

June 30, 2020

Wetlands

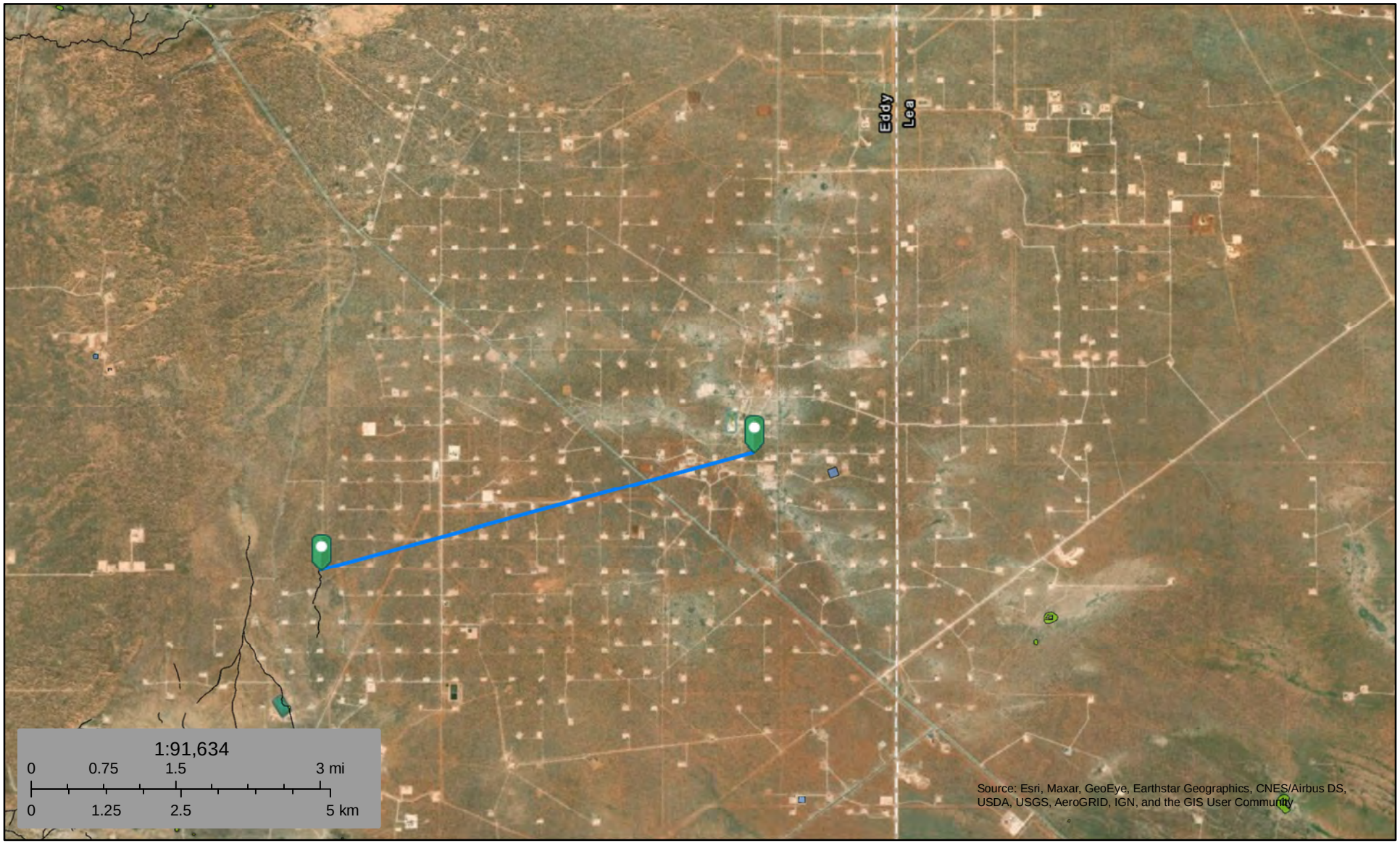
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Todd 26 G Fed 1 - Nearest Stream



June 30, 2020

Wetlands

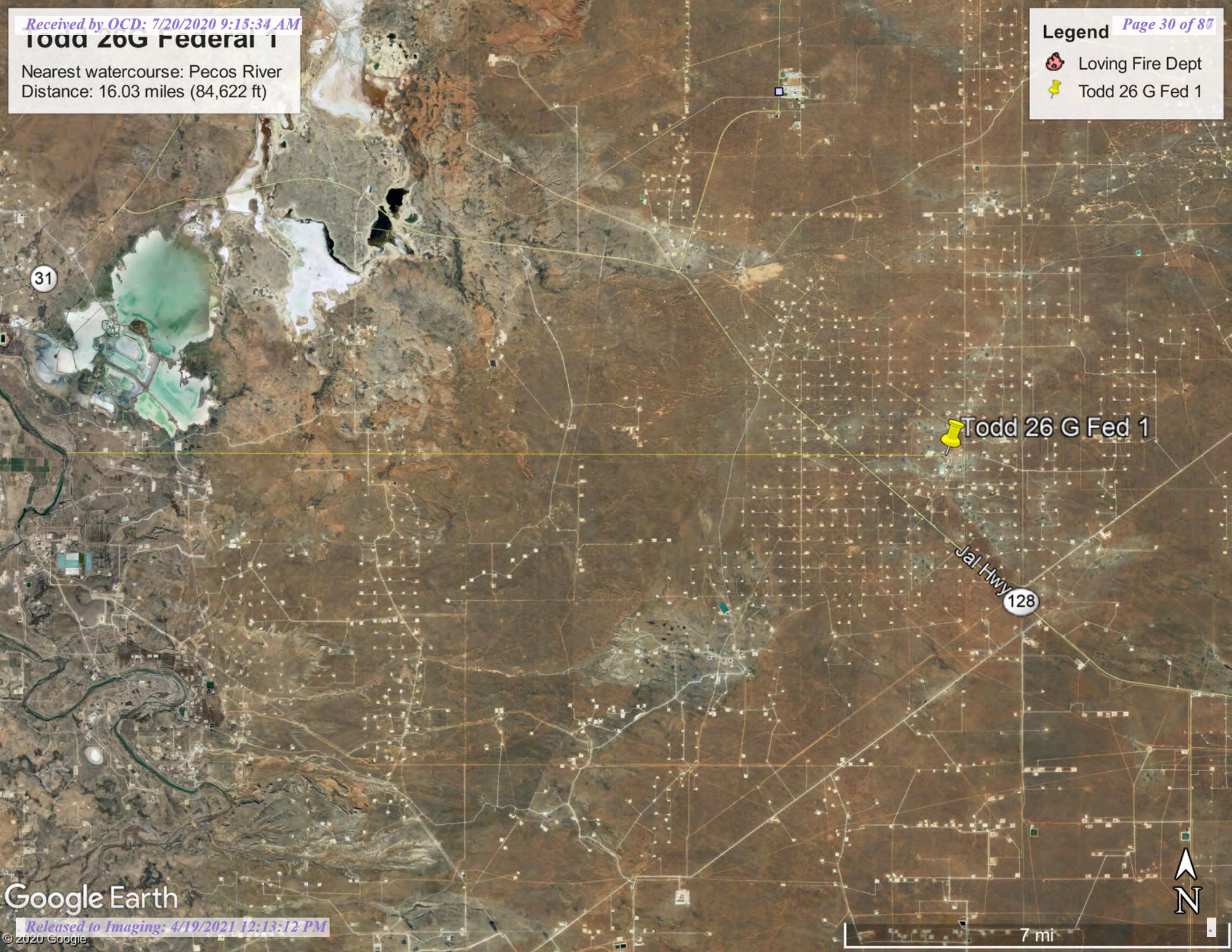
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

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

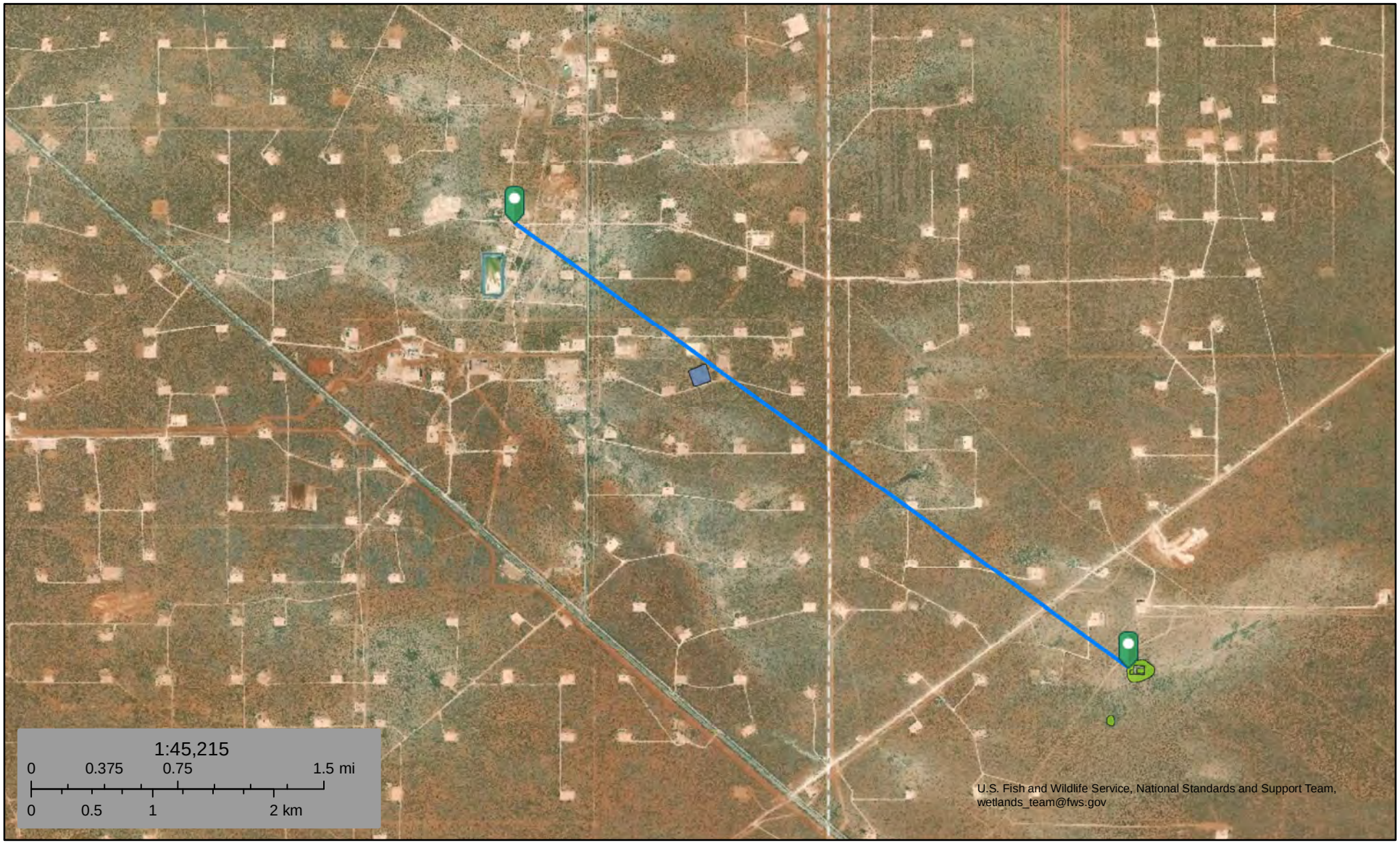
Todd 26G Federal 1

Nearest watercourse: Pecos River
Distance: 16.03 miles (84,622 ft)



U.S. Fish and Wildlife Service
National Wetlands Inventory

Todd 26 G Fed 1: Wetland 17,352 ft



March 3, 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.

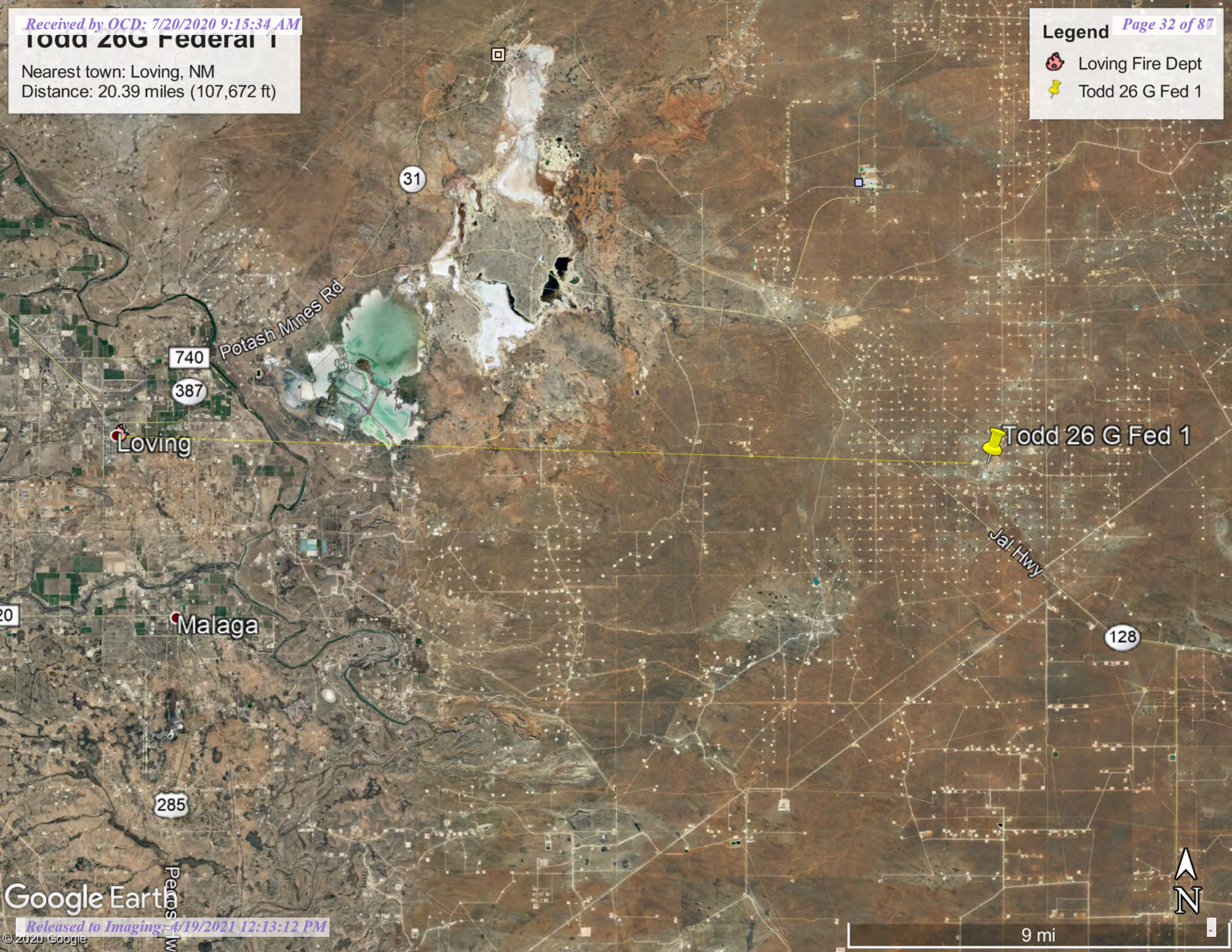
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

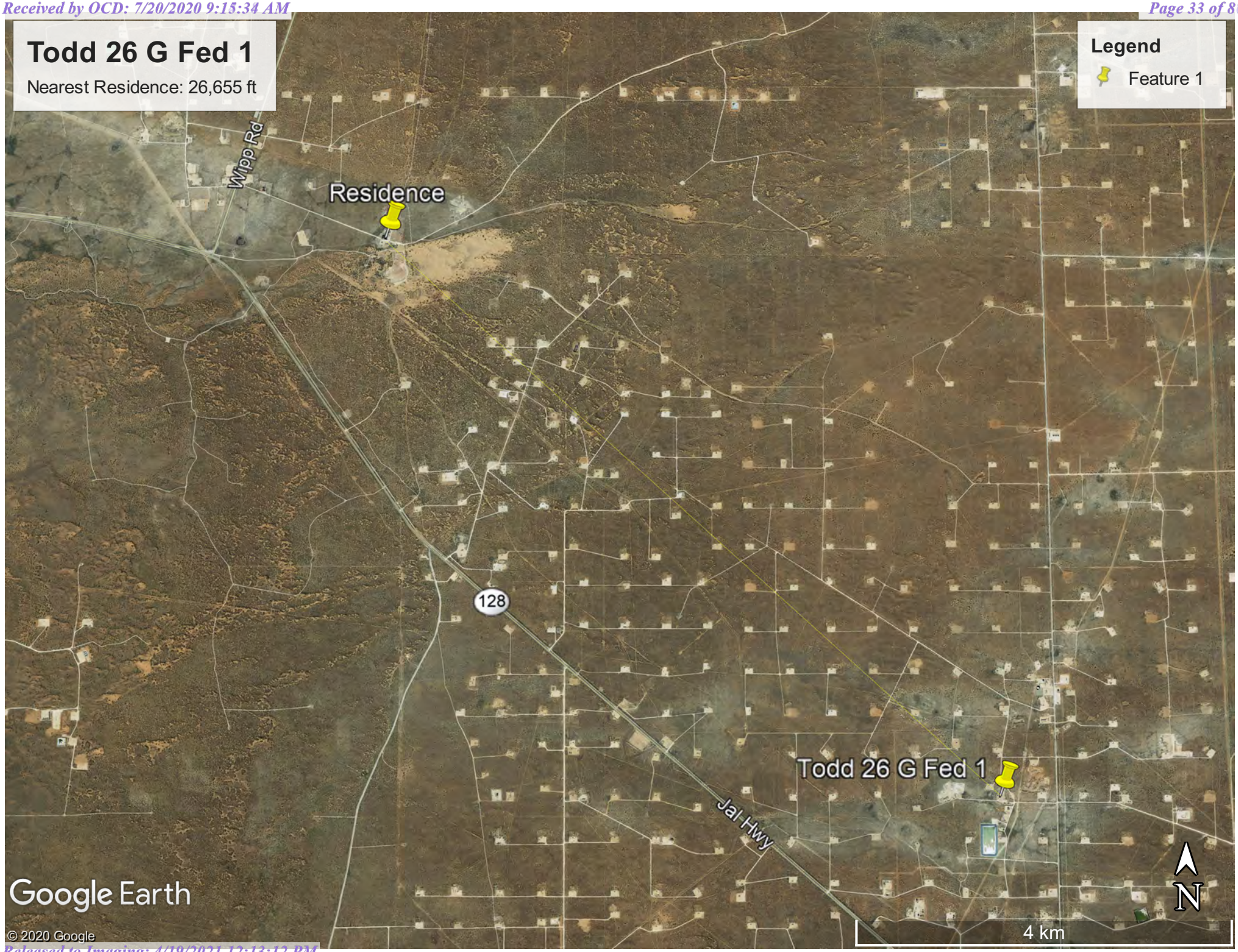
Todd 26G Federal 1

Nearest town: Loving, NM
Distance: 20.39 miles (107,672 ft)

Legend

- Loving Fire Dept
- Todd 26 G Fed 1



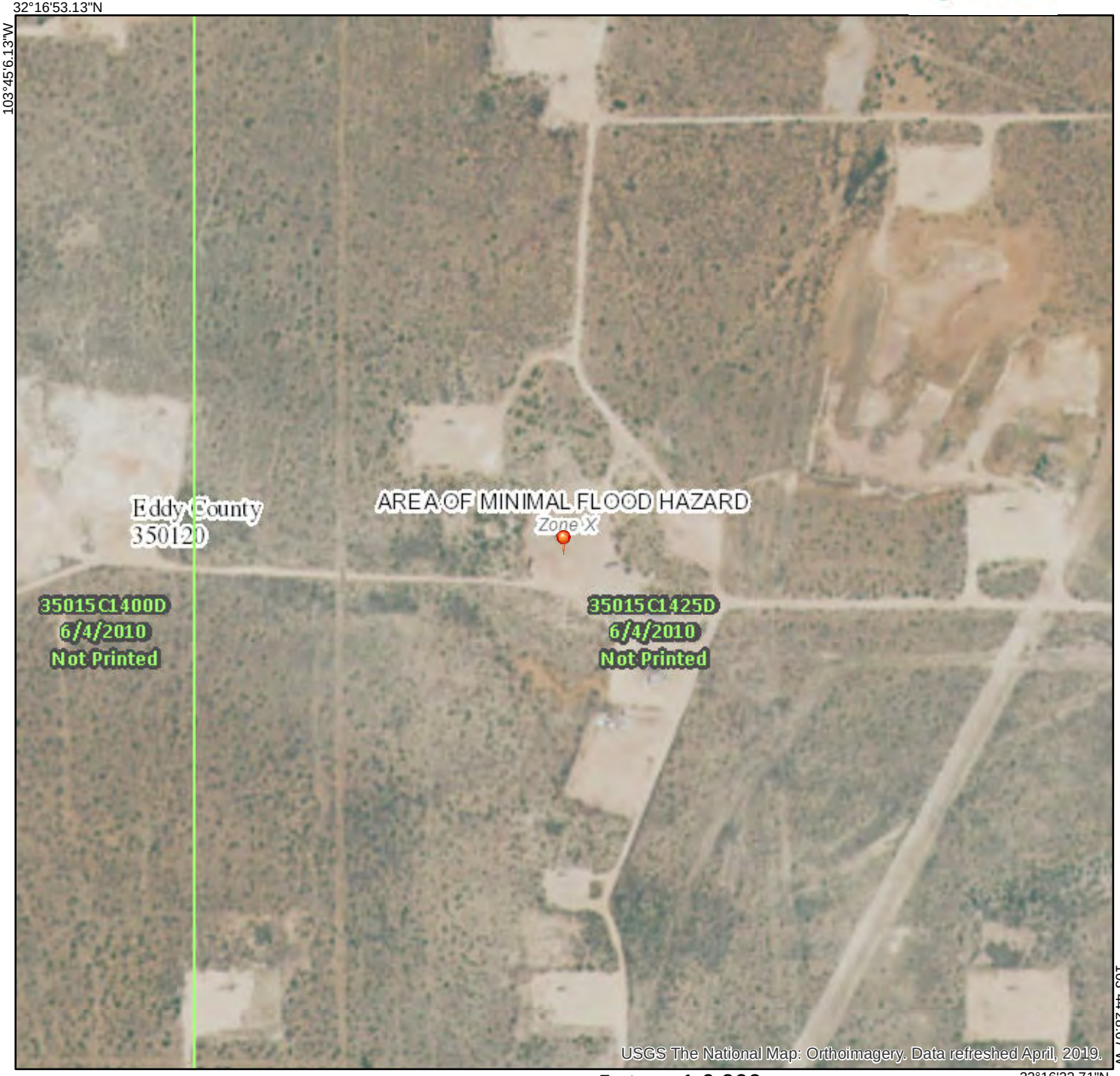

Todd 26 G Fed 1
Nearest Residence: 26,655 ft
Legend
Feature 1
Wipp Rd
Residence
128
Jal Hwy
Todd 26 G Fed 1
N
4 km
Google Earth
© 2020 Google

National Flood Hazard Layer FIRMette

FEMA

32°16'53.13"N

103°45'6.13"W



103°44'28.67"W

32°16'22.71"N

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

1:6,000

Legend

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

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

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

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

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

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

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

N

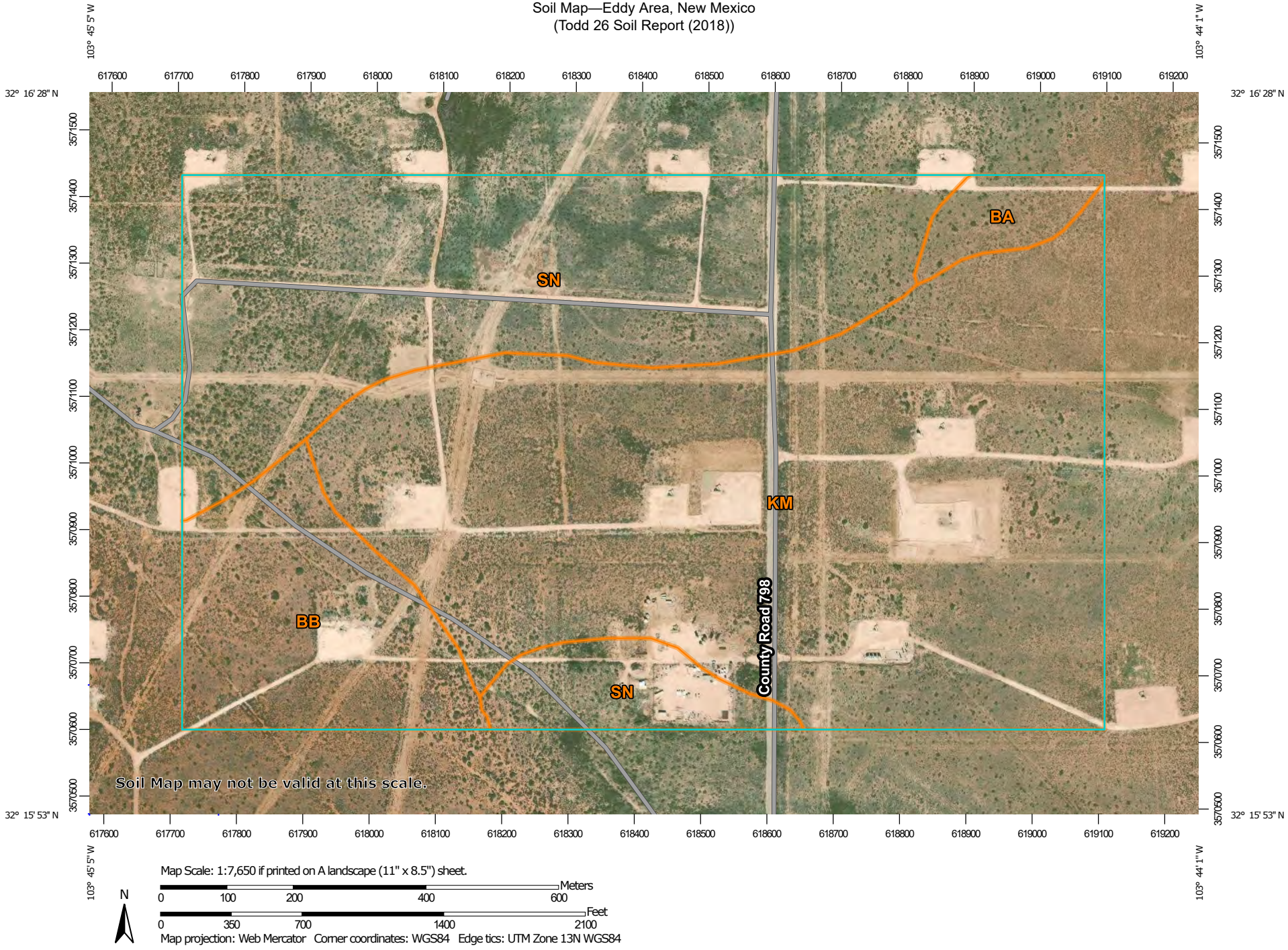
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2020 at 2:42:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Soil Map—Eddy Area, New Mexico
(Todd 26 Soil Report (2018))



Map Scale: 1:7,650 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 100 200 400 600

Feet
0 350 700 1400 2100

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 15, Sep 15, 2019

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BA	Berino loamy fine sand, 0 to 3 percent slopes	6.4	2.2%
BB	Berino complex, 0 to 3 percent slopes, eroded	32.7	11.4%
KM	Kermit-Berino fine sands, 0 to 3 percent slopes	150.5	52.4%
SN	Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded	97.7	34.0%
Totals for Area of Interest		**287.3**	**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: Plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

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

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

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

Description of Berino

Setting

Landform: Fan piedmonts, plains
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 17 inches: fine sand
H2 - 17 to 50 inches: fine sandy loam
H3 - 50 to 58 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Salinity, maximum in profile: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

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

Minor Components

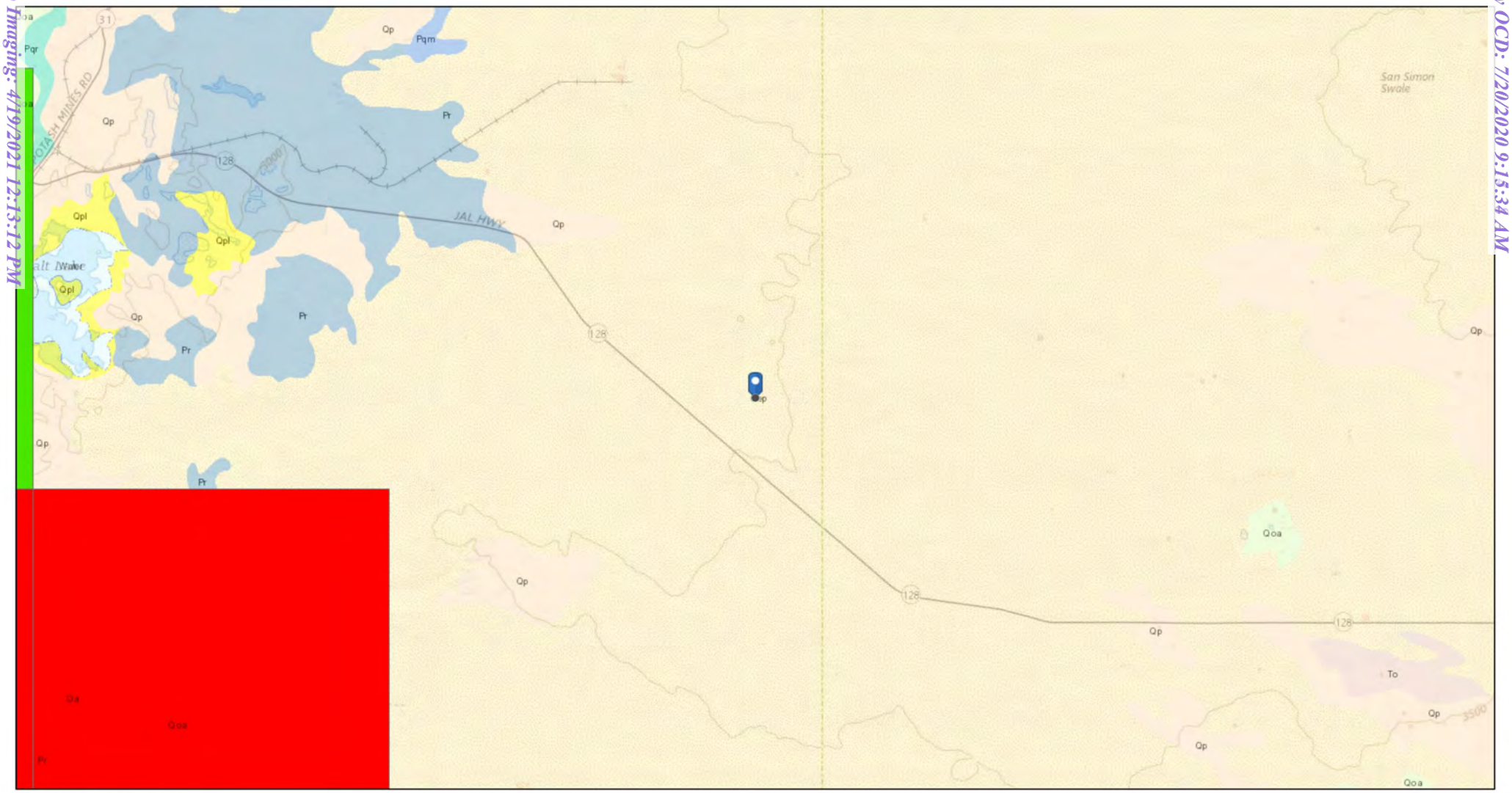
Active dune land

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

Data Source Information

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

Todd 26G Fed 1 Qep Geology



5/26/2020, 12:00:43 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

Dikes

- <all other values>
- Dike
- Dike intruding fault
- Volcanic Vents

STATEMAP (1993 to Present) [Publications]

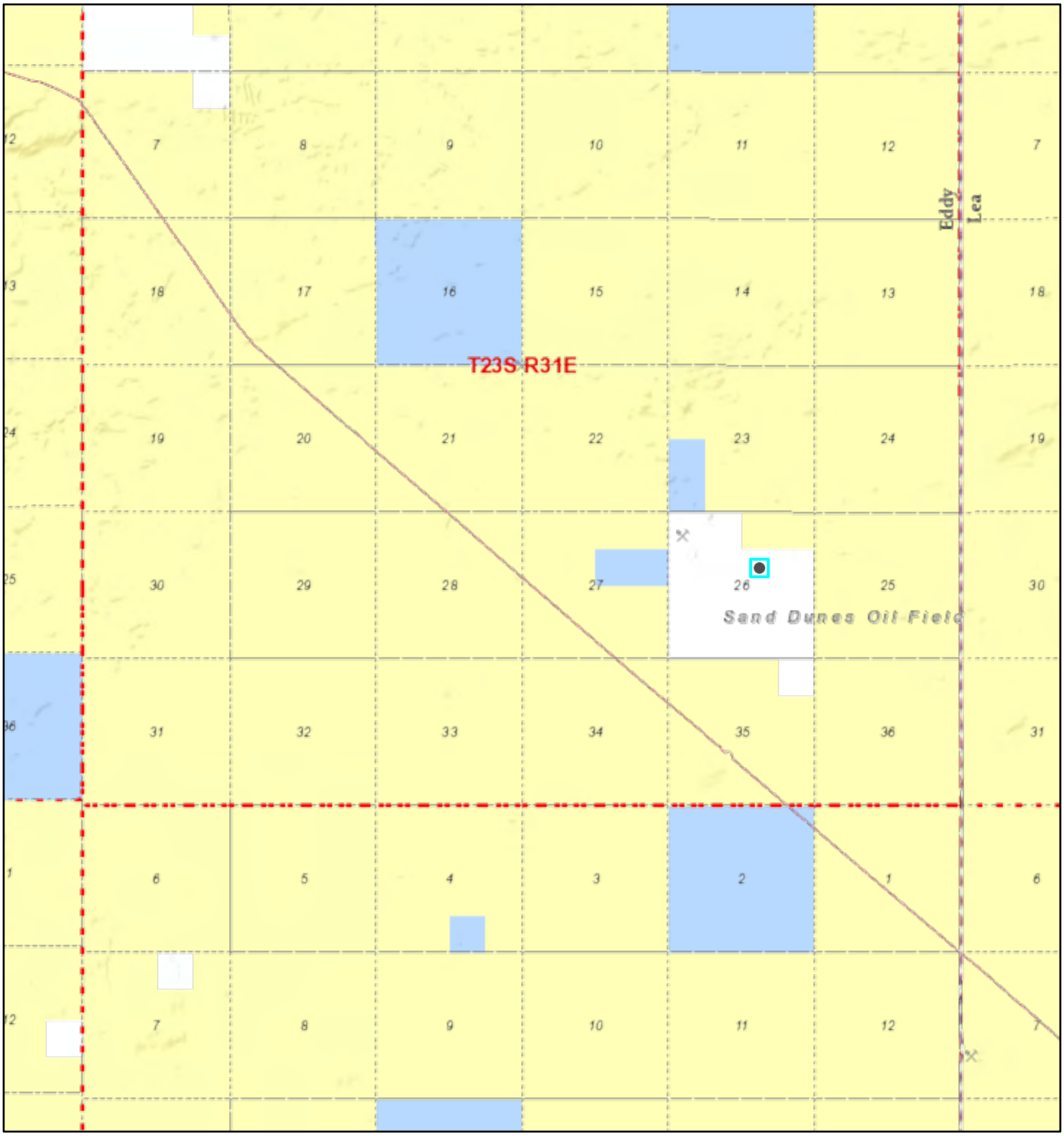
- Mapping in Complete
- Mapping in Progress

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

Web AppBuilder for ArcGIS

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

Active Mines near Todd 26 G Fed 1



3/3/2020, 1:18:04 PM

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

Registered Mines

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

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

EMNRD MMD GIS Coordinator

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

ATTACHMENT 4

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Tuesday, March 24, 2020 4:04 PM
To: Natalie Gordon
Subject: Fwd: NAB1808526921/nHMP1420427160: Todd 26G Fed 1 - 48-hr Notification of Confirmation Sampling

---------- Forwarded message ---------
From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Tue, Mar 24, 2020 at 4:03 PM
Subject: NAB1808526921/nHMP1420427160: Todd 26G Fed 1 - 48-hr Notification of Confirmation Sampling
To: Bratcher, Mike, EMNRD <Mike.Bratcher@state.nm.us>, Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>, Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>, Kelsey <KWade@blm.gov>, <Jamos@blm.gov>
Cc: <tom.bynum@dvn.com>, <amanda.davis@dvn.com>, <Lupe.Carrasco@dvn.com>, <wesley.mathews@dvn.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted at Todd 26G Federal 1 for the following two open releases:

NAB1808526921 - DOR: March 7, 2018
nHMP1420427160 - DOR: July 18, 2014

On Friday, March 27, 2020 at approximately 1:30 p.m., Monica Peppin of Vertex will be onsite to conduct confirmatory sampling. She can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact her. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

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 5

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/27/2020
Site Location Name:	Todd 26G Federal 1	Report Run Date:	5/14/2020 12:13 AM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-015-20242
Client Contact Name:	Amanda Davis	Reference	2RP-4677, 2RP-2386
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	3/27/2020 9:00 AM
Arrived at Site	3/27/2020 9:30 AM
Departed Site	3/27/2020 12:13 PM
Returned to Office	3/27/2020 2:13 PM

Daily Site Visit Report

VERTEX

Site Sketch

Daily Site Visit Report

Daily Site Visit Report

Summary of Daily Operations

9:32 Collect 12 composite samples for confirmation sampling event

9:39 Collecting composite samples from containment and pasture

Next Steps & Recommendations

1 Send samples for lab analysis

2 Closure report

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: East
	
West side of battery	Tank battery containment
Viewing Direction: East	**Viewing Direction**: South
	
North side of containment	East side of containment

Daily Site Visit Report

Viewing Direction: West	**Viewing Direction**: West
	
East side of containment	Pasture area of spill next to right of way
Viewing Direction: South	**Viewing Direction**: North
	
Area of pasture spill next to right of way	Area of pasture spill

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature: 
Signature

ATTACHMENT 6

Client Name: Devon Energy Production Company
Site Name: Todd 26G Federal 1
NM OCD Tracking #: NAB1808526921
Project #: 20E-00141-037
Lab Reports: 2003C65

Table 2. Confirmatory Sampling Laboratory Data - 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)
BS 20-09	0	March 27, 2020	<0.025	<0.224	<5.0	<9.5	<47	<14.5	<61.5	<60
BS 20-10	0	March 27, 2020	<0.025	<0.224	<5.0	<9.6	<48	<14.6	<62.6	<60
BS 20-11	0	March 27, 2020	<0.025	<0.222	<4.9	<10	<50	<14.9	<64.9	<61
BS 20-12	0	March 27, 2020	<0.025	<0.224	<5.0	<9.4	<47	<14.4	<61.4	<60

Sample numbering starts at BS 20-09 as this release was sampled at the same time as a different release associated with Todd 26G Federal 1.
Bold and shaded indicates exceedance outside of applied action level

ATTACHMENT 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 06, 2020

Natalie Gordon

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

This lab data report covers confirmatory sampling for two releases at Todd 26G:

NHMP1420427160 (BS20-01 through BS20-08, WS20-01 through WS20-02)

NAB1808526921 (BS20-09 through BS20-12)

RE: Todd 26 G Federal 1 OrderNo.: 2003C65

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 12 sample(s) on 3/28/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-001 **Matrix:** SOIL

Client Sample ID: BS20-01 0'
Collection Date: 3/27/2020 9:40:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	170	9.8		mg/Kg	1	4/2/2020 12:31:15 AM
Motor Oil Range Organics (MRO)	660	49		mg/Kg	1	4/2/2020 12:31:15 AM
Surr: DNOP	102	55.1-146		%Rec	1	4/2/2020 12:31:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/4/2020 7:00:15 AM
Surr: BFB	101	66.6-105		%Rec	1	4/4/2020 7:00:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 7:00:15 AM
Toluene	ND	0.050		mg/Kg	1	4/4/2020 7:00:15 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/4/2020 7:00:15 AM
Xylenes, Total	ND	0.10		mg/Kg	1	4/4/2020 7:00:15 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/4/2020 7:00:15 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 2:18:56 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-002 **Matrix:** SOIL

Client Sample ID: BS20-02 0'
Collection Date: 3/27/2020 9:45:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	78	47		mg/Kg	5	4/5/2020 11:17:53 PM
Motor Oil Range Organics (MRO)	240	230		mg/Kg	5	4/5/2020 11:17:53 PM
Surr: DNOP	93.4	55.1-146		%Rec	5	4/5/2020 11:17:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2020 8:11:05 AM
Surr: BFB	99.6	66.6-105		%Rec	1	4/4/2020 8:11:05 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/4/2020 8:11:05 AM
Toluene	ND	0.049		mg/Kg	1	4/4/2020 8:11:05 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2020 8:11:05 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/4/2020 8:11:05 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/4/2020 8:11:05 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 2:31:17 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 **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-003 **Matrix:** SOIL

Client Sample ID: BS20-03 0'
Collection Date: 3/27/2020 9:50:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	1700	95		mg/Kg	10	4/2/2020 2:08:47 AM
Motor Oil Range Organics (MRO)	3000	480		mg/Kg	10	4/2/2020 2:08:47 AM
Surr: DNOP	0	55.1-146	S	%Rec	10	4/2/2020 2:08:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2020 9:22:01 AM
Surr: BFB	99.1	66.6-105		%Rec	1	4/4/2020 9:22:01 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 9:22:01 AM
Toluene	ND	0.049		mg/Kg	1	4/4/2020 9:22:01 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2020 9:22:01 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/4/2020 9:22:01 AM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	4/4/2020 9:22:01 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 2:43:37 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-004 **Matrix:** SOIL

Client Sample ID: BS20-04 0'
Collection Date: 3/27/2020 9:55:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	210	9.9		mg/Kg	1	4/2/2020 2:33:00 AM
Motor Oil Range Organics (MRO)	330	50		mg/Kg	1	4/2/2020 2:33:00 AM
Surr: DNOP	104	55.1-146		%Rec	1	4/2/2020 2:33:00 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2020 9:45:48 AM
Surr: BFB	100	66.6-105		%Rec	1	4/4/2020 9:45:48 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 9:45:48 AM
Toluene	ND	0.049		mg/Kg	1	4/4/2020 9:45:48 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2020 9:45:48 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/4/2020 9:45:48 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/4/2020 9:45:48 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 2:55:58 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-005 **Matrix:** SOIL

Client Sample ID: BS20-05 0'
Collection Date: 3/27/2020 10:00:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	130	9.3		mg/Kg	1	4/2/2020 2:57:27 AM
Motor Oil Range Organics (MRO)	220	46		mg/Kg	1	4/2/2020 2:57:27 AM
Surr: DNOP	95.2	55.1-146		%Rec	1	4/2/2020 2:57:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/4/2020 10:09:34 AM
Surr: BFB	97.1	66.6-105		%Rec	1	4/4/2020 10:09:34 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 10:09:34 AM
Toluene	ND	0.050		mg/Kg	1	4/4/2020 10:09:34 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/4/2020 10:09:34 AM
Xylenes, Total	ND	0.10		mg/Kg	1	4/4/2020 10:09:34 AM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	4/4/2020 10:09:34 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 3:08:18 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 **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-006 **Matrix:** SOIL

Client Sample ID: BS20-06 0'
Collection Date: 3/27/2020 10:05:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	210	96		mg/Kg	10	4/2/2020 3:21:46 AM
Motor Oil Range Organics (MRO)	550	480		mg/Kg	10	4/2/2020 3:21:46 AM
Surr: DNOP	0	55.1-146	S	%Rec	10	4/2/2020 3:21:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2020 10:33:16 AM
Surr: BFB	98.0	66.6-105		%Rec	1	4/4/2020 10:33:16 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 10:33:16 AM
Toluene	ND	0.049		mg/Kg	1	4/4/2020 10:33:16 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2020 10:33:16 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/4/2020 10:33:16 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/4/2020 10:33:16 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	59		mg/Kg	20	4/2/2020 3:45:21 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 **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-007 **Matrix:** SOIL

Client Sample ID: BS20-07 0'
Collection Date: 3/27/2020 10:10:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/2/2020 3:46:08 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/2/2020 3:46:08 AM
Surr: DNOP	91.5	55.1-146		%Rec	1	4/2/2020 3:46:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2020 10:57:01 AM
Surr: BFB	101	66.6-105		%Rec	1	4/4/2020 10:57:01 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 10:57:01 AM
Toluene	ND	0.049		mg/Kg	1	4/4/2020 10:57:01 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2020 10:57:01 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/4/2020 10:57:01 AM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	4/4/2020 10:57:01 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 3:57:41 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-008 **Matrix:** SOIL

Client Sample ID: BS20-08 0'
Collection Date: 3/27/2020 10:15:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/2/2020 4:10:16 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/2/2020 4:10:16 AM
Surr: DNOP	89.2	55.1-146		%Rec	1	4/2/2020 4:10:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2020 11:20:50 AM
Surr: BFB	101	66.6-105		%Rec	1	4/4/2020 11:20:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 11:20:50 AM
Toluene	ND	0.049		mg/Kg	1	4/4/2020 11:20:50 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2020 11:20:50 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/4/2020 11:20:50 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/4/2020 11:20:50 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 4:10:02 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-09
Project: Todd 26 G Federal 1
Collection Date: 3/27/2020 10:20:00 AM
Lab ID: 2003C65-009 **Matrix:** SOIL **Received Date:** 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/2/2020 4:34:31 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/2/2020 4:34:31 AM
Surr: DNOP	99.3	55.1-146		%Rec	1	4/2/2020 4:34:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/4/2020 11:44:21 AM
Surr: BFB	99.9	66.6-105		%Rec	1	4/4/2020 11:44:21 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 11:44:21 AM
Toluene	ND	0.050		mg/Kg	1	4/4/2020 11:44:21 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/4/2020 11:44:21 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/4/2020 11:44:21 AM
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	4/4/2020 11:44:21 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 4:22:23 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-010 **Matrix:** SOIL

Client Sample ID: BS20-10
Collection Date: 3/27/2020 10:25:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/2/2020 4:58:44 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/2/2020 4:58:44 AM
Surr: DNOP	104	55.1-146		%Rec	1	4/2/2020 4:58:44 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/4/2020 12:07:52 PM
Surr: BFB	102	66.6-105		%Rec	1	4/4/2020 12:07:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 12:07:52 PM
Toluene	ND	0.050		mg/Kg	1	4/4/2020 12:07:52 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/4/2020 12:07:52 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/4/2020 12:07:52 PM
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	4/4/2020 12:07:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 4:34:44 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26 G Federal 1
Lab ID: 2003C65-011 **Matrix:** SOIL

Client Sample ID: BS20-11
Collection Date: 3/27/2020 10:30:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/2/2020 5:23:03 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/2/2020 5:23:03 AM
Surr: DNOP	90.8	55.1-146		%Rec	1	4/2/2020 5:23:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2020 8:52:24 PM
Surr: BFB	101	66.6-105		%Rec	1	4/4/2020 8:52:24 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 8:52:24 PM
Toluene	ND	0.049		mg/Kg	1	4/4/2020 8:52:24 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2020 8:52:24 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/4/2020 8:52:24 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/4/2020 8:52:24 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	61		mg/Kg	20	4/2/2020 4:47:05 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C65**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-12
Project: Todd 26 G Federal 1
Collection Date: 3/27/2020 10:35:00 AM
Lab ID: 2003C65-012 **Matrix:** SOIL **Received Date:** 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/2/2020 5:47:09 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/2/2020 5:47:09 AM
Surr: DNOP	92.3	55.1-146		%Rec	1	4/2/2020 5:47:09 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/4/2020 9:16:09 PM
Surr: BFB	98.3	66.6-105		%Rec	1	4/4/2020 9:16:09 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 9:16:09 PM
Toluene	ND	0.050		mg/Kg	1	4/4/2020 9:16:09 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/4/2020 9:16:09 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/4/2020 9:16:09 PM
Surr: 4-Bromofluorobenzene	99.8	80-120		%Rec	1	4/4/2020 9:16:09 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/2/2020 5:24:08 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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#: **2003C65**
06-Apr-20

Client: Devon Energy
Project: Todd 26 G Federal 1

Sample ID: **MB-51520**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51520**	RunNo: **67778**							
Prep Date: **4/2/2020**	Analysis Date: **4/2/2020**	SeqNo: **2342072**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51520**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51520**	RunNo: **67778**							
Prep Date: **4/2/2020**	Analysis Date: **4/2/2020**	SeqNo: **2342073**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.7	90	110			

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

Sample ID: **LCS-51509**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51509**	RunNo: **67778**							
Prep Date: **4/2/2020**	Analysis Date: **4/2/2020**	SeqNo: **2342105**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003C65**

06-Apr-20

Client: Devon Energy

Project: Todd 26 G Federal 1

Sample ID: **LCS-51419** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **51419** RunNo: **67718**
Prep Date: **3/30/2020** Analysis Date: **3/31/2020** SeqNo: **2339279** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.8		5.000		75.9	55.1	146			

Sample ID: **MB-51419** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **51419** RunNo: **67718**
Prep Date: **3/30/2020** Analysis Date: **3/31/2020** SeqNo: **2339280** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		95.3	55.1	146			

Sample ID: **MB-51432** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **51432** RunNo: **67718**
Prep Date: **3/31/2020** Analysis Date: **4/2/2020** SeqNo: **2340291** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		95.7	55.1	146			

Sample ID: **2003C65-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-01 0'** Batch ID: **51433** RunNo: **67718**
Prep Date: **3/31/2020** Analysis Date: **4/2/2020** SeqNo: **2340660** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	130	9.8	48.88	166.5	-72.3	47.4	136			S
Surr: DNOP	4.4		4.888		90.2	55.1	146			

Sample ID: **2003C65-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-01 0'** Batch ID: **51433** RunNo: **67718**
Prep Date: **3/31/2020** Analysis Date: **4/2/2020** SeqNo: **2340661** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	130	9.8	49.02	166.5	-76.4	47.4	136	1.61	43.4	S
Surr: DNOP	4.5		4.902		90.9	55.1	146	0	0	

Sample ID: **LCS-51433** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **51433** RunNo: **67718**
Prep Date: **3/31/2020** Analysis Date: **4/2/2020** SeqNo: **2340681** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	70	130			
Surr: DNOP	4.6		5.000		91.9	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003C65**
06-Apr-20

Client: Devon Energy
Project: Todd 26 G Federal 1

Sample ID: **MB-51433**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51433**	RunNo: **67718**							
Prep Date: **3/31/2020**	Analysis Date: **4/1/2020**	SeqNo: **2340683**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		98.6	55.1	146			

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

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003C65**
06-Apr-20

Client: Devon Energy
Project: Todd 26 G Federal 1

Sample ID: **2.5ug gro lcs** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **G67819** RunNo: **67819**
Prep Date: Analysis Date: **4/3/2020** SeqNo: **2342508** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		110	66.6	105			S

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **G67819** RunNo: **67819**
Prep Date: Analysis Date: **4/3/2020** SeqNo: **2342518** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		109	66.6	105			S

Sample ID: **2003c65-002ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS20-02 0'** Batch ID: **51426** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/4/2020** SeqNo: **2343506** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.90	0	87.0	69.1	142			
Surr: BFB	1100		996.0		111	66.6	105			S

Sample ID: **2003c65-002amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS20-02 0'** Batch ID: **51426** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/4/2020** SeqNo: **2343507** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.75	0	87.5	69.1	142	0.0461	20	
Surr: BFB	1100		990.1		111	66.6	105	0	0	S

Sample ID: **lcs-51420** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **51420** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/3/2020** SeqNo: **2343527** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		109	66.6	105			S

Sample ID: **mb-51420** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **51420** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/3/2020** SeqNo: **2343529** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	990		1000		98.6	66.6	105			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003C65**
06-Apr-20

Client: Devon Energy
Project: Todd 26 G Federal 1

Sample ID: **mb-51426**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **51426**	RunNo: **67819**
Prep Date: **3/30/2020**	Analysis Date: **4/4/2020**	SeqNo: **2343530** 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	1000		1000		101	66.6	105			

Sample ID: **lcs-51426**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51426**	RunNo: **67872**
Prep Date: **3/30/2020**	Analysis Date: **4/4/2020**	SeqNo: **2344486** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	80	120			
Surr: BFB	1100		1000		107	66.6	105			S

Sample ID: **mb-51471**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **51471**	RunNo: **67872**
Prep Date: **4/1/2020**	Analysis Date: **4/5/2020**	SeqNo: **2344497** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.1	66.6	105			

Sample ID: **lcs-51471**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51471**	RunNo: **67872**
Prep Date: **4/1/2020**	Analysis Date: **4/5/2020**	SeqNo: **2344498** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		107	66.6	105			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical 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#: **2003C65**
06-Apr-20

Client: Devon Energy
Project: Todd 26 G Federal 1

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

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

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

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

Sample ID: **2003c65-001ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS20-01 0'** Batch ID: **51426** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/4/2020** SeqNo: **2343554** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.1	78.5	119			
Toluene	0.90	0.050	1.000	0	90.2	75.7	123			
Ethylbenzene	0.92	0.050	1.000	0	92.3	74.3	126			
Xylenes, Total	2.8	0.10	3.000	0	93.2	72.9	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID: **2003c65-001amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS20-01 0'** Batch ID: **51426** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/4/2020** SeqNo: **2343555** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.024	0.9747	0	90.7	78.5	119	2.58	20	
Toluene	0.90	0.049	0.9747	0	92.3	75.7	123	0.277	20	
Ethylbenzene	0.92	0.049	0.9747	0	94.1	74.3	126	0.710	20	
Xylenes, Total	2.8	0.097	2.924	0	95.0	72.9	130	0.704	20	
Surr: 4-Bromofluorobenzene	1.0		0.9747		104	80	120	0	0	

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

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003C65**
06-Apr-20

Client: Devon Energy
Project: Todd 26 G Federal 1

Sample ID: **LCS-51426** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **51426** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/4/2020** SeqNo: **2343577** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.4	80	120			
Toluene	0.87	0.050	1.000	0	87.4	80	120			
Ethylbenzene	0.89	0.050	1.000	0	88.8	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

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

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **mb-51426** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **51426** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/4/2020** SeqNo: **2343579** Units: **mg/Kg**

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

Sample ID: **mb-51471** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **51471** RunNo: **67872**
Prep Date: **4/1/2020** Analysis Date: **4/5/2020** SeqNo: **2344549** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		97.9	80	120			

Sample ID: **LCS-51471** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **51471** RunNo: **67872**
Prep Date: **4/1/2020** Analysis Date: **4/5/2020** SeqNo: **2344550** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		99.1	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: DEVON ENERGY Work Order Number: 2003C65 RcptNo: 1

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

Completed By: **Erin Melendrez** 3/28/2020 3:22:34 PM

Reviewed By: JR 3/30/20

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: DAD 3/30/20

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

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

Chain-of-Custody Record

Client: Devon

Amanda Davis / Wes Mathews

Mailing Address: 6488 Seven Rivers Hwy

Artesia, NM 88210

Phone #: on file

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day Turn

☑ Standard ☐ Rush

Project Name: Todd 26 G Federal 1

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 2.9+0.2(CF)=2.7 (°C)

5.2+0.2(CF)=5.0°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/27	9:40	soil	BS20-01 0'	4 oz	ice	2003C65-001	✓	✓					✓			
	9:45		BS20-02 0'			-002	✓	✓					✓			
	9:50		BS20-03 0'			-003	✓	✓					✓			
	9:55		BS20-04 0'			-004	✓	✓					✓			
	10:00		BS20-05 0'			-005	✓	✓					✓			
	10:05		BS20-06 0'			-006	✓	✓					✓			
	10:10		BS20-07 0'			-007	✓	✓					✓			
	10:15		BS20-08 0'			-008	✓	✓					✓			
	10:20		BS20-09			-009	✓	✓					✓			
	10:25		BS20-10			-010	✓	✓					✓			
	10:30		BS20-11			-011	✓	✓					✓			
	10:35		BS20-12			-012	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3/27	1400				3/27	1432
3/27	1900			courier	3/28/20	0815

Remarks: CC: Natalie Gordon

Direct bill

Devon w/o # 20843202

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: www.hallenvironmental.com

May 26, 2020

Natalie Gordon

Vertex Resource Group Ltd.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Todd 26 6 Fed 1 OrderNo.: 2005807

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/19/2020 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 **2005807**
Date Reported: **5/26/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.
Client Sample ID: BS20-03 0.0'
Project: Todd 26 6 Fed 1
Collection Date: 5/18/2020 11:00:00 AM
Lab ID: 2005807-001 **Matrix:** SOIL **Received Date:** 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	5/21/2020 4:57:29 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	5/21/2020 4:57:29 PM
Surr: DNOP	109	55.1-146		%Rec	1	5/21/2020 4:57:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	59		mg/Kg	20	5/23/2020 9:25:50 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/21/2020 8:43:38 PM
Toluene	ND	0.047		mg/Kg	1	5/21/2020 8:43:38 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/21/2020 8:43:38 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/21/2020 8:43:38 PM
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%Rec	1	5/21/2020 8:43:38 PM
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	5/21/2020 8:43:38 PM
Surr: Dibromofluoromethane	98.8	70-130		%Rec	1	5/21/2020 8:43:38 PM
Surr: Toluene-d8	101	70-130		%Rec	1	5/21/2020 8:43:38 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/21/2020 8:43:38 PM
Surr: BFB	102	70-130		%Rec	1	5/21/2020 8:43:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2005807**
Date Reported: **5/26/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.
Client Sample ID: WS20-01 0.0'
Project: Todd 26 6 Fed 1
Collection Date: 5/18/2020 11:20:00 AM
Lab ID: 2005807-002 **Matrix:** SOIL
Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/21/2020 5:21:43 PM
Motor Oil Range Organics (MRO)	61	50		mg/Kg	1	5/21/2020 5:21:43 PM
Surr: DNOP	121	55.1-146		%Rec	1	5/21/2020 5:21:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	5/23/2020 9:38:15 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/21/2020 9:13:36 PM
Toluene	ND	0.047		mg/Kg	1	5/21/2020 9:13:36 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/21/2020 9:13:36 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/21/2020 9:13:36 PM
Surr: 1,2-Dichloroethane-d4	92.8	70-130		%Rec	1	5/21/2020 9:13:36 PM
Surr: 4-Bromofluorobenzene	94.1	70-130		%Rec	1	5/21/2020 9:13:36 PM
Surr: Dibromofluoromethane	94.0	70-130		%Rec	1	5/21/2020 9:13:36 PM
Surr: Toluene-d8	101	70-130		%Rec	1	5/21/2020 9:13:36 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/21/2020 9:13:36 PM
Surr: BFB	102	70-130		%Rec	1	5/21/2020 9:13:36 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2005807**
Date Reported: **5/26/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.
Client Sample ID: WS20-02 0.0'
Project: Todd 26 6 Fed 1
Collection Date: 5/18/2020 11:30:00 AM
Lab ID: 2005807-003 **Matrix:** SOIL
Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	12	9.8		mg/Kg	1	5/21/2020 5:46:12 PM
Motor Oil Range Organics (MRO)	53	49		mg/Kg	1	5/21/2020 5:46:12 PM
Surr: DNOP	114	55.1-146		%Rec	1	5/21/2020 5:46:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	110	60		mg/Kg	20	5/23/2020 9:50:40 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/21/2020 9:43:05 PM
Toluene	ND	0.049		mg/Kg	1	5/21/2020 9:43:05 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/21/2020 9:43:05 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/21/2020 9:43:05 PM
Surr: 1,2-Dichloroethane-d4	93.8	70-130		%Rec	1	5/21/2020 9:43:05 PM
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	1	5/21/2020 9:43:05 PM
Surr: Dibromofluoromethane	92.6	70-130		%Rec	1	5/21/2020 9:43:05 PM
Surr: Toluene-d8	102	70-130		%Rec	1	5/21/2020 9:43:05 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/21/2020 9:43:05 PM
Surr: BFB	102	70-130		%Rec	1	5/21/2020 9:43:05 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2005807**

26-May-20

Client: Vertex Resource Group Ltd.

Project: Todd 26 6 Fed 1

Sample ID: **MB-52667**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **52667**	RunNo: **69127**							
Prep Date: **5/23/2020**	Analysis Date: **5/23/2020**	SeqNo: **2395515**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-52667**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **52667**	RunNo: **69127**							
Prep Date: **5/23/2020**	Analysis Date: **5/23/2020**	SeqNo: **2395516**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.9	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2005807**

26-May-20

Client: Vertex Resource Group Ltd.

Project: Todd 26 6 Fed 1

Sample ID: **MB-52627** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **52627** RunNo: **69068**
Prep Date: **5/21/2020** Analysis Date: **5/21/2020** SeqNo: **2392013** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.7		10.00		96.8	55.1	146			

Sample ID: **LCS-52627** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **52627** RunNo: **69068**
Prep Date: **5/21/2020** Analysis Date: **5/21/2020** SeqNo: **2392014** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.5	55.1	146			

Sample ID: **MB-52598** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **52598** RunNo: **69068**
Prep Date: **5/20/2020** Analysis Date: **5/22/2020** SeqNo: **2392532** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		107	55.1	146			

Sample ID: **MB-52605** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **52605** RunNo: **69068**
Prep Date: **5/20/2020** Analysis Date: **5/21/2020** SeqNo: **2392533** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		95.9	55.1	146			

Sample ID: **LCS-52598** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **52598** RunNo: **69068**
Prep Date: **5/20/2020** Analysis Date: **5/22/2020** SeqNo: **2392534** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		83.8	55.1	146			

Sample ID: **LCS-52605** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **52605** RunNo: **69068**
Prep Date: **5/20/2020** Analysis Date: **5/21/2020** SeqNo: **2392535** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	87.0	70	130			
Surr: DNOP	4.4		5.000		87.7	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2005807**
26-May-20

Client: Vertex Resource Group Ltd.
Project: Todd 26 6 Fed 1

Sample ID: **mb-52577** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **52577** RunNo: **69081**
Prep Date: **5/19/2020** Analysis Date: **5/21/2020** SeqNo: **2392357** 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		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.5	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.2	70	130			
Surr: Toluene-d8	0.50		0.5000		99.2	70	130			

Sample ID: **LCS-52577** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **52577** RunNo: **69081**
Prep Date: **5/19/2020** Analysis Date: **5/21/2020** SeqNo: **2392358** 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	88.9	80	120			
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.2	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		93.0	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		94.4	70	130			
Surr: Toluene-d8	0.51		0.5000		102	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#: **2005807**

26-May-20

Client: Vertex Resource Group Ltd.

Project: Todd 26 6 Fed 1

Sample ID: **mb-52577**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **52577**	RunNo: **69081**
Prep Date: **5/19/2020**	Analysis Date: **5/21/2020**	SeqNo: **2392372** 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	520		500.0		103	70	130			

Sample ID: **LCS-52577**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **52577**	RunNo: **69081**
Prep Date: **5/19/2020**	Analysis Date: **5/21/2020**	SeqNo: **2392377** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.7	70	130			
Surr: BFB	520		500.0		104	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: VERTEX CARLSBAD Work Order Number: 2005807 RcptNo: 1

Received By: Isaiah Ortiz 5/19/2020 9:30:00 AM I-OX

Completed By: Isaiah Ortiz 5/19/2020 10:32:31 AM I-OX

Reviewed By: LB 5/19/20

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: DAD 5/19/20

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	4.2	Good	Not Present			

Chain-of-Custody Record

Client: Vertex

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 TURN
☑ Standard ☐ Rush

Project Name: Todd 26 6 Fed 1

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: Austin Harris

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.3 0.1 CF 4.2 (°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. 2005807	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)
5-18	1100	Soil	BS20-03 0.0'	4oz	Ice	-001										
	1120		WS20-01 0.0'			-002										
	1130		WS20-02 0.0'			-003										

Date	Time	Relinquished by	Received by	Via	Date	Time
5-18	1330	Austin Harris				
5/18/20	1900				5/18/20	1330
			IQ courier		5/19/20	0930

Remarks: CC: Natalie Gordon

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 9288

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
PIMA ENVIRONMENTAL SERVICES, L 1601 N. Turner Suite 500 Hobbs, NM88240	329999	9288	C-141

OCD Reviewer	Condition
chensley	None