May 17, 2019 Vertex Project #: 19E-00575-003

Spill Closure Report: Todd 26 K Federal #010 (Section 26, Township 23 South, Range 31 East)
API: 30-015-27102
County: Eddy
Incident Report: 2RP-5222

Prepared For: **Devon Energy**
6488 Seven Rivers Highway
Artesia, New Mexico 88210

New Mexico Oil Conservation Division - District 2 Artesia
811 S. 1st Street
Artesia, New Mexico 88210

Devon Energy retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment for a release of produced water and crude oil caused by a leak on the poly line west of Todd 26 K Federal #010, API 30-015-27102, Incident 2RP-5222 (hereafter referred to as "site"). The letter provides a description of the Spill Assessment and includes a request for Spill Closure. The spill area is located at N 32.275639, W -103.74543.

Background

The site is located approximately 36 miles southeast of Carlsbad, New Mexico. The legal location for the site is Section 26, Township 23 South and Range 31 East in Eddy County, New Mexico. The spill area is located on state land and has a lessee. An aerial photograph and site schematic are included in Attachment 1.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2014 – 2017) indicates the site's surface geology is comprised primarily of Pqm ---- Quartermaster Formation (Upper Permian) and is characterized as red sandstone and siltstone. Predominant soil texture on the site is fine sandy loam.

Incident Description

A spill occurred on December 25, 2018, due to leak from the poly line. The spill was reported January 29, 2019 and involved the release of approximately 2 barrels (bbls) of crude oil and 12.32 bbls of produced water on the access road to the pad. Approximately 0.5 bbls of crude oil and 1.50 bbls of production water were removed during initial spill clean-up. The New Mexico Oil Conservation Division (NMOCD) C-141 Report: 2RP-5222 is included in Attachment 2. The Daily Field Reports (DFRs) and site photographs are included in Attachment 3.

Closure Criteria Determination

The depth to groundwater was determined using information from Oil and Gas Drilling records and the New Mexico Office of the State Engineer Water Column/Average Depth to Water report. A 5,000-meter search radius was used to determine groundwater depth. The closest recorded depth to groundwater was determined to be 430 feet below

ground surface (bgs) and 1,293 feet from the site. Documentation used in Closure Criteria Determination research is included in Attachment 4.

Table 1.	**Closure Criteria Determination**		
Site Name: Todd 26 Fed #10			
Spill Coordinates: 32.275667, -103.745452			
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	None within 300	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	55711	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	26928	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**	1293	feet
	ii) Within 1000 feet of any fresh water well or spring	1293	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	17633	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
10	Within a 100-year Floodplain	500	year
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>100'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 2.

Table 2. Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
> 100 feet	Chloride	20,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

Remedial Actions Taken

An initial site inspection of the spill area was completed on March 21, 2019, which identified the area of the spill specified in the initial C-141 Report, estimated the approximate volume of the spill and white lined the area required for the 811 One Call request. The impacted area was determined to be approximately 250 feet long and 31 feet wide; the total affected area was determined to be 4,177 square feet. The DFR associated with the site is included in Attachment 3.

Remediation efforts began on March 30, 2019 and were completed on April 26, 2019. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on a total of ten (10) sample points and consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and Quantabs (chlorides). Field screening results were used to identify areas requiring further remediation from those areas showing concentrations below determined closure criteria levels. Soils were removed to a depth of one foot bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Waste Manifest is presented in Attachment 5. Field screening results are presented in Attachment 6, as well as in the DFRs presented in Attachment 3.

Notification that confirmatory samples were being collected was provided to the NMOCD on April 2, 2019 and are included in Attachment 7. Confirmatory composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of nine (9) samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B or EPA Method 8260B), Total Petroleum Hydrocarbons (GRO, DRO, MRO; EPA Method 8015D) and Total Chlorides (EPA Method 300.0). Laboratory results are presented in Table 3, Attachment 6. All confirmatory samples collected and analyzed were below closure criteria for the site.

Closure Request

The spill area was fully delineated, remediated and backfilled with local soils by April 26, 2019 (Attachment 7). Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the New Mexico Administrative Code Closure Criteria for Soils Impacted by a Release, locations "greater than 100 feet to groundwater". Based on these findings, Devon Energy requests that this spill be closed.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 575.391.1137 or dwilliams@vertex.ca.

Sincerely,

Dennis Williams
ENVIRONMENTAL EARTHWORKS ADVISOR

Attachments

Attachment 1. Site Schematic
Attachment 2. NMOCD C-141 Report: 2RP-5222
Attachment 3. Daily Field Report(s) with Pictures
Attachment 4. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
Attachment 5. Waste Manifest(s)
Attachment 6. Table 3 - Laboratory Results Table
Attachment 7. Confirmatory Sample Notification to the NMOCD
Attachment 8. Laboratory Data Reports and COCs

References

1. *Water Column/Average Depth to Water Report.* New Mexico Water Rights Reporting System, (2019). Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html

2. *Assessed and Impaired Waters of New Mexico.* New Mexico Department of Surface Water Quality Bureau, (2019). Retrieved from https://gis.web.env.nm.gov/oem/?map=swqb

3. *Interactive Geologic Map.* New Mexico Bureau of Geology and Mineral Resources, (2019). Retrieved from http://geoinfo.nmt.edu

4. *Measured Distance from the Subject Site to Residence.* Google Earth Pro, (2019). Retrieved from https://earth.google.com

5. *Point of Diversion Location Report.* New Mexico Water Rights Reporting System, (2019). Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/wellSurfaceDiversion.html

6. *Measured Distance from the Subject Site to Municipal Boundaries.* Google Earth Pro, (2019). Retrieved from https://earth.google.com

7. *National Wetland Inventory Surface Waters and Wetland*. United State Fish and Wildlife Service, (2019). Retrieved from https://www.fws.gov/wetlands/data/mapper.html

8. *Coal Mine Resources in New Mexico*. NM Mining and Minerals Division, (2019). Retrieved from http://www.emnrd.state.nm.us/MMD/gismapminedata.html

9. *New Mexico Cave/Karsts*. United States Department of the Interior, Bureau of Land Management, (2019) Retrieved from https://www.blm.gov/programs/recreation/recreation-programs/caves/new-mexico

10. *Flood Map Number 35015C1875D.* United States Department of Homeland Security, FEMA Flood Map Service Center, (2010). Retrieved from https://msc.fema.gov/portal/search?AddressQuery=malaga%20new%20mexico#searchresultsanchor

11. *Well Log/Meter Information Report.* NM Office of the State Engineer, New Mexico Water Rights Reporting System. (2019). Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/meterReport.html

12. *Natural Resources and Wildlife Oil and Gas Releases*. New Mexico Oil Conservation Division, (2019). Santa Fe, New Mexico.

13. *Soil Survey, New Mexico*. United States Department of Agriculture, Soil Conservation Service in Cooperation with New Mexico Agricultural Experiment Station. (1971). Retrieved from http://www.wipp.energy.gov/library/Information_Repository_A/Supplemental_Information/Chugg%20et%20al%201971%20w-map.pdf

Limitations

This report has been prepared for the sole benefit of Devon Energy. 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 Energy. 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.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1903733353
District RP	2RP-5222
Facility ID	
Application ID	pAB1903732371

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
- ☒ 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	NAB1903733353
District RP	2RP-5222
Facility ID	
Application ID	pAB1903732371

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: Wesley Mathews Title: Environmental Representative

Signature: Wesley Mathews Date: _____

email: Wesley.mathews@dvn.com Telephone: 575-578-6195

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1903733353
District RP	2RP-5222
Facility ID	
Application ID	pAB1903732371

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- [X] Detailed description of proposed remediation technique
- [X] Scaled sitemap with GPS coordinates showing delineation points
- [X] Estimated volume of material to be remediated
- [X] Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- [X] Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- [X] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [X] Extents of contamination must be fully delineated.
- [X] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Wesley Mathews Title: Environmental Representative

Signature: Wesley Mathews Date: _____

email: _Wesley.mathews@dvn.com_____ Telephone: 575-578-6195

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1903733353
District RP	2RP-5222
Facility ID	
Application ID	pAB1903732371

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: Wesley Mathews Title: Environmental Representative

Signature: Wesley Mathews Date: 1/27/2020

email: wesley.mathews@dvn.com Telephone: 575-578-6195

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 1

LEGEND

SPILL

ROAD

0 15 30 60 Feet

SCALE 1:800

Notes: Aerial Image from ESRI Digital Globe 2016

devon

Site Schematic
Todd 26 K Federal
#010

VERTEX

DRAWN:	NM	FIGURE: 1
APPROVED:	KM	
DATE:	MAR 24/19	

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\Figure 1-Todd 26 N Federal 014 (19E-00575).mxd

ATTACHMENT 2

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAB1903733353
District RP	2RP-5222
Facility ID	
Application ID	pAB1903732371

Release Notification

Responsible Party

Responsible Party Devon Energy Production Company	OGRID 6137
Contact Name Amanda T. Davis	Contact Telephone 575-748-0176
Contact email amanda.davis@dvn.com	Incident # *(assigned by OCD)* NAB1903733353
Contact mailing address 6488 Seven Rivers Hwy	

Location of Release Source

Latitude 32.2735825 Longitude -103.7496414
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Todd 26 K Federal #10	Site Type Oil
Date Release Discovered 12/25/2018	API# *(if applicable)* 3001527102

Unit Letter	Section	Township	Range	County
K	26	23S	31E	Eddy

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

Nature and Volume of Release

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

■ Crude Oil	Volume Released (bbls) 2	Volume Recovered (bbls) .50
■ Produced Water	Volume Released (bbls) 12.32	Volume Recovered (bbls) 1.50
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release Leak on poly line. Spill area 105'x15'x0.5"

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1903733353
District RP	2RP-5222
Facility ID	
Application ID	pAB1903732371

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ■ No	If YES, for what reason(s) does the responsible party consider this a major release?

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Initial Response

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

- ■ The source of the release has been stopped.
- ■ The impacted area has been secured to protect human health and the environment.
- ☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ■ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

The spill occurred outside of containment.

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Kendra DeHoyos Title: EHS Associate

Signature: Kendra DeHoyos Digitally signed by Kendra DeHoyos DN: cn=Kendra DeHoyos, o=Devon, ou, email=kendra.dehoyos@dvn.com, c=US Date: 2019.02.06 10:03:26 -07'00' Date: 1/15/2019

email: kendra.dehoyos@dvn.com Telephone: 575-748-3371

OCD Only

Received by: Amalia Bustamante Date: 2/06/2019

From:	Bratcher, Mike, EMNRD
To:	Bustamante, Amalia, EMNRD
Cc:	Hamlet, Robert, EMNRD; Venegas, Victoria, EMNRD
Subject:	FW: C-141_Todd 26 K Fed 10
Date:	Tuesday, January 29, 2019 4:08:10 PM
Attachments:	C141 Todd 26 K Fed 10_14.32 BBLS PW and Oil_1.15.19.pdf

From: DeHoyos, Kendra <Kendra.DeHoyos@dvn.com>
Sent: Tuesday, January 29, 2019 2:12 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; jamos@blm.gov; dmckinne@blm.gov
Cc: Davis, Amanda <Amanda.Davis@dvn.com>; Price, Henryetta (Contract) <Henryetta.Price@dvn.com>
Subject: [EXT] C-141_Todd 26 K Fed 10

Good Afternoon,

Please see the attached initial C-141 of the spill that occurred at the Todd 26 K Fed 10 on 1.15.19

Thank you,

Kendra DeHoyos
EHS Associate
Devon Energy Corporation
PO Box 250
Artesia, NM 88211

From:	Hamlet, Robert, EMNRD
To:	"DeHoyos, Kendra"
Cc:	Bratcher, Mike, EMNRD; Venegas, Victoria, EMNRD; jamos@blm.gov; dmckinne@blm.gov; "Davis, Amanda"; "Price, Henryetta (Contract"
Subject:	FW: C-141_Todd 26 K Fed 10 (30-015-7102) (2RP-5222) 12/25/2018
Date:	Wednesday, February 6, 2019 11:04:00 AM
Attachments:	C141 Todd 26 K Fed 10_14.32 BBLS PW and Oil_1.15.19.pdf

RE: **Devon * Todd 26 K Federal #10** * DOR: **12/25/2018**

All,

The OCD tracking number for this release event is **2RP-5222**.

Please include our new environmental tech Victoria Venegas Victoria.Venegas@state.nm.us on all future correspondence.

Thank you,

Robert J Hamlet
State of New Mexico
Energy, Minerals, and Natural Resources
Oil Conservation Division
811 S. First St., Artesia NM 88210
(575) 840-5963
Robert.Hamlet@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

From: Bratcher, Mike, EMNRD
Sent: Tuesday, January 29, 2019 4:08 PM
To: Bustamante, Amalia, EMNRD <Amalia.Bustamante@state.nm.us>
Cc: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>
Subject: FW: C-141_Todd 26 K Fed 10

From: DeHoyos, Kendra <Kendra.DeHoyos@dvn.com>
Sent: Tuesday, January 29, 2019 2:12 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; jamos@blm.gov; dmckinne@blm.gov
Cc: Davis, Amanda <Amanda.Davis@dvn.com>; Price, Henryetta (Contract) <Henryetta.Price@dvn.com>

Subject: [EXT] C-141_Todd 26 K Fed 10

Good Afternoon,

Please see the attached initial C-141 of the spill that occurred at the Todd 26 K Fed 10 on 1.15.19

Thank you,

Kendra DeHoyos
EHS Associate
Devon Energy Corporation
PO Box 250
Artesia, NM 88211

ATTACHMENT 3

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/21/2019
Site Location Name:	Todd 26 K Federal #010	Report Run Date:	3/21/2019 5:17 PM
Project Owner:	Amanda T. Davis	File (Project) #:	19E-00575
Project Manager:	Dennis Williams	API #:	30-015-27102
Client Contact Name:	Amanda Davis	Reference	2RP-5222 Poly Line Release
Client Contact Phone #:	(575) 748-0176		

Summary of Times

Left Office	3/21/2019 7:00 AM
Arrived at Site	3/21/2019 8:19 AM
Departed Site	3/21/2019 9:45 AM
Returned to Office	3/21/2019 10:46 AM

Summary of Daily Operations

9:09 Arrive on site and fill out arrival and safety forms
Map spill with Trimble and take pictures
Flag and paint the perimeter of the spill area
Take more pictures
Fill out DFR
Head back to office and upload all paperwork and data

Next Steps & Recommendations

1. Return to office and upload all paperwork and data
2. Put together a remediation plan
3. Clean up spill and take samples
4. Await sample results

Daily Site Visit Report

Site Photos

Viewing Direction: South

Spill area

Viewing Direction: North

Spill area

Viewing Direction: West

Spill area

Viewing Direction: South

Flagged and painted spill area

Daily Site Visit Report

Viewing Direction: West

Flagged and painted spill area

Viewing Direction: South

Flagged and painted spill area

Viewing Direction: North

Flagged and painted spill area

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Jason Crabtree

Signature: 

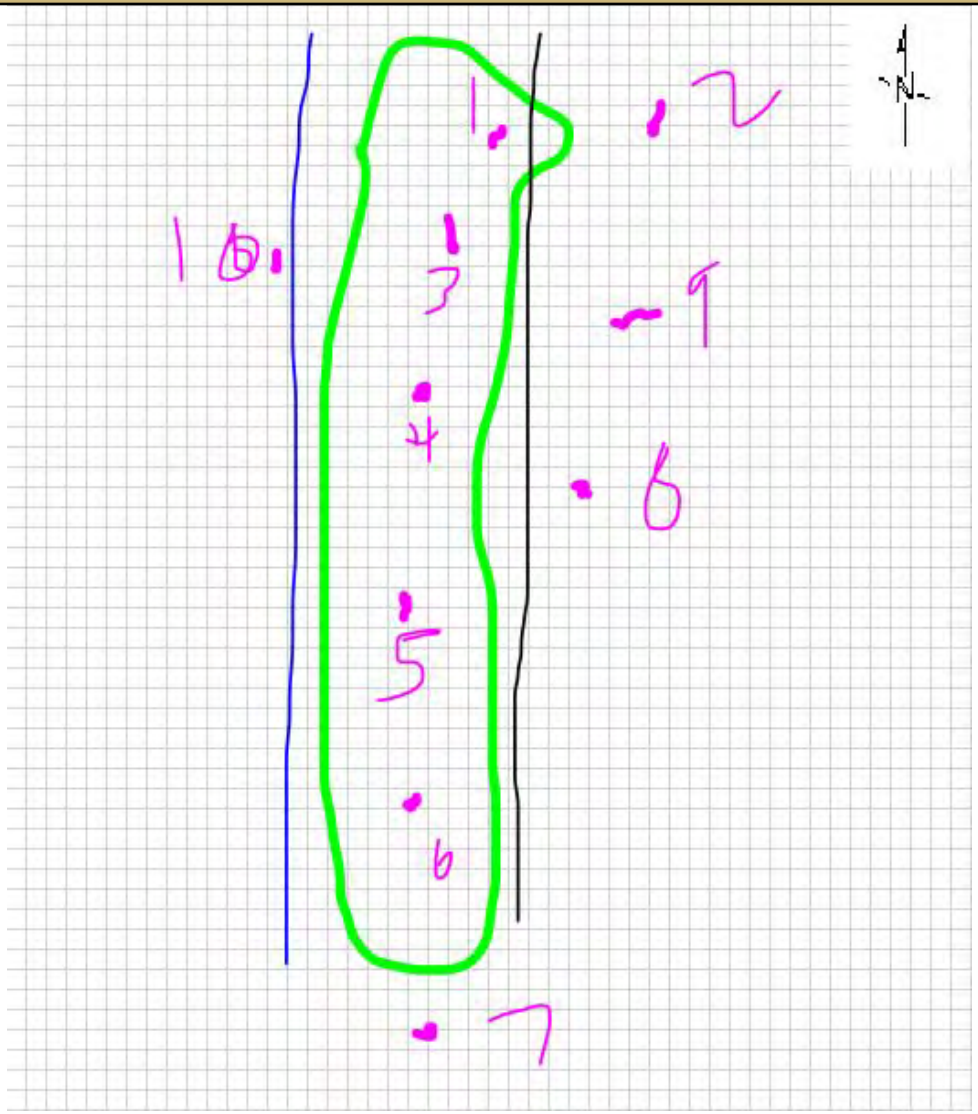
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/30/2019
Site Location Name:	Todd 26 K Federal #010	Report Run Date:	3/31/2019 1:29 AM
Project Owner:	Amanda T. Davis	File (Project) #:	19E-00575
Project Manager:	Dennis Williams	API #:	30-015-27102
Client Contact Name:	Amanda Davis	Reference	2RP-5222 Poly Line Release
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	3/30/2019 8:15 AM
Arrived at Site	3/30/2019 9:15 AM
Departed Site	3/30/2019 6:06 PM
Returned to Office	3/30/2019 6:59 PM

Daily Site Visit Report

Site Sketch



Daily Site Visit Report

Summary of Daily Operations

9:34 Arrive onsite and complete all safety paperwork and arrival form.

11:06 Start excavation and sample as we go along

Next Steps & Recommendations

1 Have soil pile removed.

2 Take confirmatory samples on Tuesday.

3 Submit report to Devon.

4 Close out file

Sampling

BH19-01

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	80 ppm	Low (30-600 ppm)	74 ppm		✓	32.16’32.152”, -103.44’43.727”	Yes
1 ft.	0 ppm	20 ppm	Low (30-600 ppm)	0 ppm		✓	32.16’32.152”, -103.44’43.727”	Yes

BH19-02

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	0 ppm	Low (30-600 ppm)	0 ppm		✓	32.16’32.172”, -103.44’43.296”	Yes

Daily Site Visit Report

	1 ft.	0 ppm	40 ppm	Low (30-600 ppm)	0 ppm		✓	32.16’32.172”, -103.44’43.296”	Yes

SS19-03

	Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
	0 ft.	0 ppm	180 ppm	Low (30-600 ppm)	197 ppm		✓	32.16’32.152”, -103.44’43.727	Yes

SS19-04

	Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
	0 ft.	0 ppm	350 ppm	High (300-6000ppm)	2245 ppm		✓	32.16’31.458”, -103.44’44.148”	Yes

SS19-05

	Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
	0 ft.	0 ppm	370 ppm	High (300-6000ppm)	1896 ppm		✓	32.16’30.916”, -103.44’44.423”	Yes

SS19-06

	Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
	0 ft.	0 ppm	0 ppm	Low (30-600 ppm)	532 ppm		✓	32.16’30.452”, -103.44’44.658”	Yes

Daily Site Visit Report

VERTEX

SS19-07

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	20 ppm	Low (30-600 ppm)	74 ppm		✓	32.16’29.990”, -103.44’44.850”	Yes

SS19-08

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	0 ppm	Low (30-600 ppm)	0 ppm		✓	32.16’31.042”, -103.44’44.161”	Yes

SS19-09

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	110 ppm	Low (30-600 ppm)	30 ppm		✓	32.16’31.631”, -103.44’43.840”	Yes

SS19-10

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	110 ppm	Low (30-600 ppm)	0 ppm		✓	32.16’32.026”, -103.44’44.194”	Yes

Daily Site Visit Report

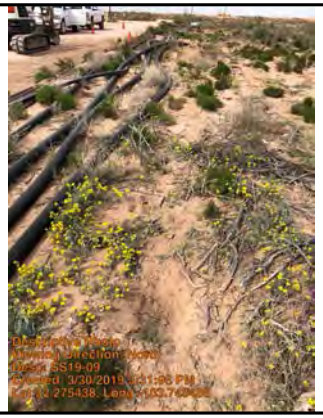
Site Photos

Viewing Direction: South	**Viewing Direction**: North
	
BH19-01	BH19-02
Viewing Direction: South	**Viewing Direction**: South
	
SS19-03	SS19-04

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: South
	
SS19-05	SS19-06
Viewing Direction: North	**Viewing Direction**: North
	
SS19-07	SS19-08

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: South
	
SS19-09	SS19-10
Viewing Direction: North	**Viewing Direction**: North
	
Overview of spill area.	Overview of spill area.

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: South
	
Overview of spill area.	Overview of spill area.
Viewing Direction: South	**Viewing Direction**: East
	
Overview of spill area.	Soil pile 30ft x 15ft x 4ft

Daily Site Visit Report

Viewing Direction: South

Soil pile 30ft x 15ft x 4ft

Daily Site Visit Report

Depth Sample Photos

Sample Point ID: BH19-01	Sample Point ID: BH19-01
	
Depth: 0ft.	**Depth:** 2ft.

Sample Point ID: BH19-02	Sample Point ID: BH19-02
	
Depth: 0ft.	**Depth:** 2ft.

Daily Site Visit Report

Sample Point ID: SS19-03	**Sample Point ID**: SS19-10
	
Depth: 0ft.	**Depth:** 0ft.
Sample Point ID: SS19-09	**Sample Point ID**: SS19-04
	
Depth: 0ft.	**Depth:** 0ft.

Daily Site Visit Report

Sample Point ID: SS19-08	**Sample Point ID**: SS19-05
	
Depth: 0ft.	**Depth:** 0ft.
Sample Point ID: SS19-06	**Sample Point ID**: SS19-07
	
Depth: 0ft.	**Depth:** 0ft.

Daily Site Visit Report

Daily Site Visit Signature

Signature of Inspector:

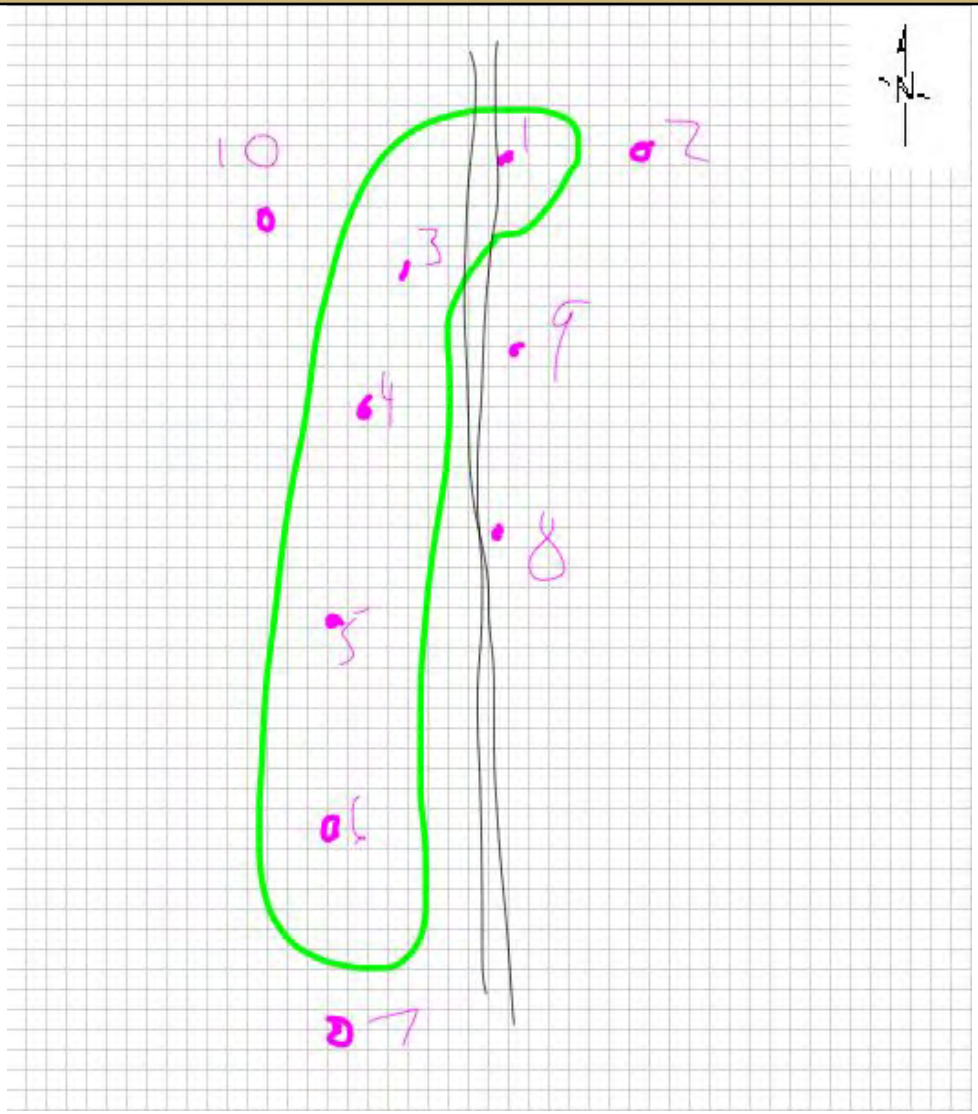
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/2/2019
Site Location Name:	Todd 26 K Federal #010	Report Run Date:	4/2/2019 10:42 PM
Project Owner:	Amanda T. Davis	File (Project) #:	19E-00575
Project Manager:	Dennis Williams	API #:	30-015-27102
Client Contact Name:	Amanda Davis	Reference	2RP-5222 Poly Line Release
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	4/2/2019 12:18 PM
Arrived at Site	4/2/2019 1:16 PM
Departed Site	4/2/2019 2:55 PM
Returned to Office	4/2/2019 4:05 PM

Daily Site Visit Report

Site Sketch



Daily Site Visit Report

Summary of Daily Operations

13:17 Complete all safety paperwork and arrival form.

13:28 Collect soil samples.

15:46 Dropped off samples with skip tabor from hall environmental.

Next Steps & Recommendations

1

Sampling

SS19-01

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’32.152”, -103.44’43.727”	Yes
1 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’32.152”, -103.44’43.727”	Yes

SS19-02

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’32.172”, -103.44’43.296”	Yes

Daily Site Visit Report

SS19-03

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’321.951”, -103.44’43.888”	Yes

SS19-04

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’31.458”, -103.44’44.148”	Yes

SS19-05

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’30.916”, -103.44’44.423”	Yes

SS19-06

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’30.452”, -103.44’44.658”	Yes

Daily Site Visit Report

SS19-07

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’29.990”, -103.44’44.850”	Yes

SS19-08

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’31.042”, -103.44’44.161”	Yes

SS19-09

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’31.631”, -103.44’43.840”	Yes

SS19-10

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.16’32.026”, -103.44’44194”	Yes

Daily Site Visit Report

Site Photos

Viewing Direction: South

Overview of spill area.

Viewing Direction: South

Overview of spill area

Viewing Direction: West

COC

Daily Site Visit Report

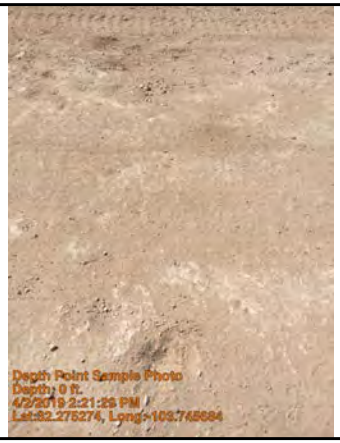
Depth Sample Photos

Sample Point ID: SS19-10	Sample Point ID: SS19-03
	
Depth: 0ft.	**Depth:** 0ft.

Sample Point ID: SS19-02	Sample Point ID: SS19-01
	
Depth: 0ft.	**Depth:** 0ft.

Daily Site Visit Report

Sample Point ID: SS19-01	**Sample Point ID**: SS19-04
	
Depth: 1ft.	**Depth:** 0ft.

Sample Point ID: SS19-09	**Sample Point ID**: SS19-05
	
Depth: 0ft.	**Depth:** 0ft.

Daily Site Visit Report

Sample Point ID: SS19-06

Depth: 0ft.

Sample Point ID: SS19-08

Depth: 0ft.

Sample Point ID: SS19-07

Depth: 0ft.

Daily Site Visit Report

Daily Site Visit Signature

Signature of Inspector:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/6/2019
Site Location Name:	Todd 26 K Federal #010	Report Run Date:	4/6/2019 10:11 PM
Project Owner:	Amanda T. Davis	File (Project) #:	19E-00575
Project Manager:	Dennis Williams	API #:	30-015-27102
Client Contact Name:	Amanda Davis	Reference	2RP-5222 Poly Line Release
Client Contact Phone #:	(575) 748-0176		

Summary of Times

Left Office	4/6/2019 8:00 AM
Arrived at Site	4/6/2019 8:40 AM
Departed Site	4/6/2019 8:52 AM
Returned to Office	4/6/2019 9:05 AM

Summary of Daily Operations

13:39 Complete all safety paperwork and arrival form.

13:39 Conduct safety meeting.

13:39 Remove soil pile. One 20yard truck and one 12 yard truck to R360.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: East
	
Soil pile removed	Soil pile removed

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Robyn Fisher

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/26/2019
Site Location Name:	Todd 26 K Federal #010	Report Run Date:	4/26/2019 10:32 PM
Project Owner:	Amanda T. Davis	File (Project) #:	19E-00575
Project Manager:	Dennis Williams	API #:	30-015-27102
Client Contact Name:	Amanda Davis	Reference	2RP-5222 Poly Line Release
Client Contact Phone #:	(575) 748-0176		

Summary of Times

Left Office	4/26/2019 7:15 AM
Arrived at Site	4/26/2019 8:15 AM
Departed Site	4/26/2019 11:30 AM
Returned to Office	4/26/2019 12:06 PM

Summary of Daily Operations

9:15 Arrive on site

9:16 Fill out safety paperwork and excavation permits

9:17 Take pictures before and after backfill operation

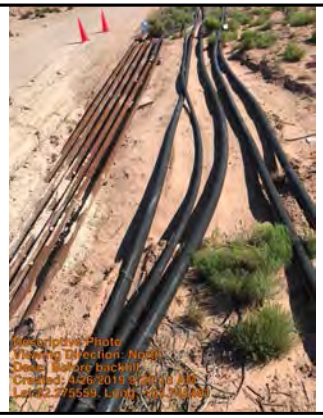
Next Steps & Recommendations

1 Complete closure report

2 Send report to client

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: South
	
Before backfill	Before backfill
Viewing Direction: West	**Viewing Direction**: North
	
Before backfill	Before backfill

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: South
	
After backfill near flow lines	After backfill near flow lines
Viewing Direction: Southeast	**Viewing Direction**: West
	
Backfill area on road near flow lines	After backfill near flow lines

Daily Site Visit Report

Viewing Direction: West

After backfill near flow lines

Viewing Direction: Northeast

After backfill near flow lines

Viewing Direction: South

After backfill compacted road

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Austin Harris

Signature: 

Signature

ATTACHMENT 4

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 02348	C	ED	1	4	3	26	23S	31E	617648	3571068	396	700	430	270
C 02258	C	ED		3	2	26	23S	31E	618055	3571853*	500	662		
C 02405	CUB	ED		4	1	02	24S	31E	617690	3568631*	2818	275	160	115
C 02464	C	ED	3	4	1	02	24S	31E	617589	3568530*	2923	320	205	115
C 02460	C	ED			3	02	24S	31E	617496	3568022*	3437	320		
C 02460 POD2	C	ED			3	02	24S	31E	617496	3568022*	3437	320		
C 02777	CUB	ED	4	4	4	10	23S	31E	616974	3575662	4285	890		
C 03749 POD1	CUB	LE	3	4	4	07	23S	32E	616974	3575662	4285	865	639	226
C 02661	CUB	ED	3	3	1	04	24S	31E	613969	3568485*	4811	708		
C 02785	CUB	ED	3	3	1	04	24S	31E	613969	3568485*	4811	692		
C 02954 EXPL	CUB	ED	3	1	4	20	23S	31E	613114	3572906*	4868	905		
C 02783	CUB	ED	3	3	1	04	24S	31E	613911	3568461	4871	708		
C 02783 POD2	CUB	ED	3	3	1	04	24S	31E	613911	3568461	4871	672		
C 02784	C	ED	4	2	4	04	24S	31E	613911	3568461	4871	584		
C 03529 POD1	C	LE	2	4	3	29	23S	32E	622651	3571212	4897	550		

Average Depth to Water: **358 feet**

Minimum Depth: **160 feet**

Maximum Depth: **639 feet**

Record Count: 15

UTMNAD83 Radius Search (in meters):

Easting (X): 617758.94 **Northing (Y):** 3571449 **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*	245
C 02348	C	STK	3	NGL WATER SOLUTIONS PERMIAN	ED	C 02348				Shallow	1 4 3	26	23S	31E	617647	3571068	721
C 02602	C	SAN	0	POGO PRODUCING COMPANY	ED	C 02602					2 2	35	23S	31E	618471	3570650*	1027
C 00225 A	CUB	IRR	8.4	GREGORY ROCKHOUSE RANCH	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3014
C 01246 AO	CUB	IRR	47.82	CATHLEEN MC INTIRE	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3014
C 02405	C	PRO	0	TEXACO EXPLORATION & PROD. IND	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3014
C 02452	C	PRO	0	TEXACO EXPLORATION & PROD INC.	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3014
					ED	C 02452					4 1	02	24S	31E	617690	3568631*	3014
C 02576	C	PRO	0	SONAT EXPLORATION COMPANY	ED	C 02405				Shallow	4 1	02	24S	31E	617690	3568631*	3014
C 02464	C	PRO	0	COMMISSIONER OF PUBLIC LANDS	ED	C 02464				Shallow	3 4 1	02	24S	31E	617589	3568530*	3130
C 02901	C	PUB	0	B & H MAINTENANCE & CONST.	ED	C 02901					3 4 1	02	24S	31E	617589	3568530*	3130
C 02460	C	PRO	0	SONAT EXPLORATION	ED	C 02460				Shallow	3	02	24S	31E	617496	3568022*	3646
					ED	C 02460 POD2				Shallow	3	02	24S	31E	617496	3568022*	3646
C 02777	CUB	MON	0	US DEPT OF ENERGY WIPP	ED	C 02777					4 4 4	10	23S	31E	616973	3575662	4205
C 03749	CUB	MON	0	US DEPARTMENT OF ENERGY	LE	C 03749 POD1				Shallow	3 4 4	07	23S	32E	616973	3575662	4205
C 03529	C	STK	0	ANNETTE MCCLOY	LE	C 03529 POD1					2 4 3	29	23S	32E	622651	3571212	4551
C 03851	CUB	MON	0	US DEPARTMENT OF ENERGY	LE	C 03851 POD1			NON	Artesian	3 3 4	20	23S	32E	622879	3572660	4874

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

Record Count: 17

UTMNAD83 Radius Search (in meters):

Easting (X): 618117.87 **Northing (Y):** 3571615.32 **Radius:** 5000

Sorted by: Distance

Help Using this Tool

Legend | Basemap | Query

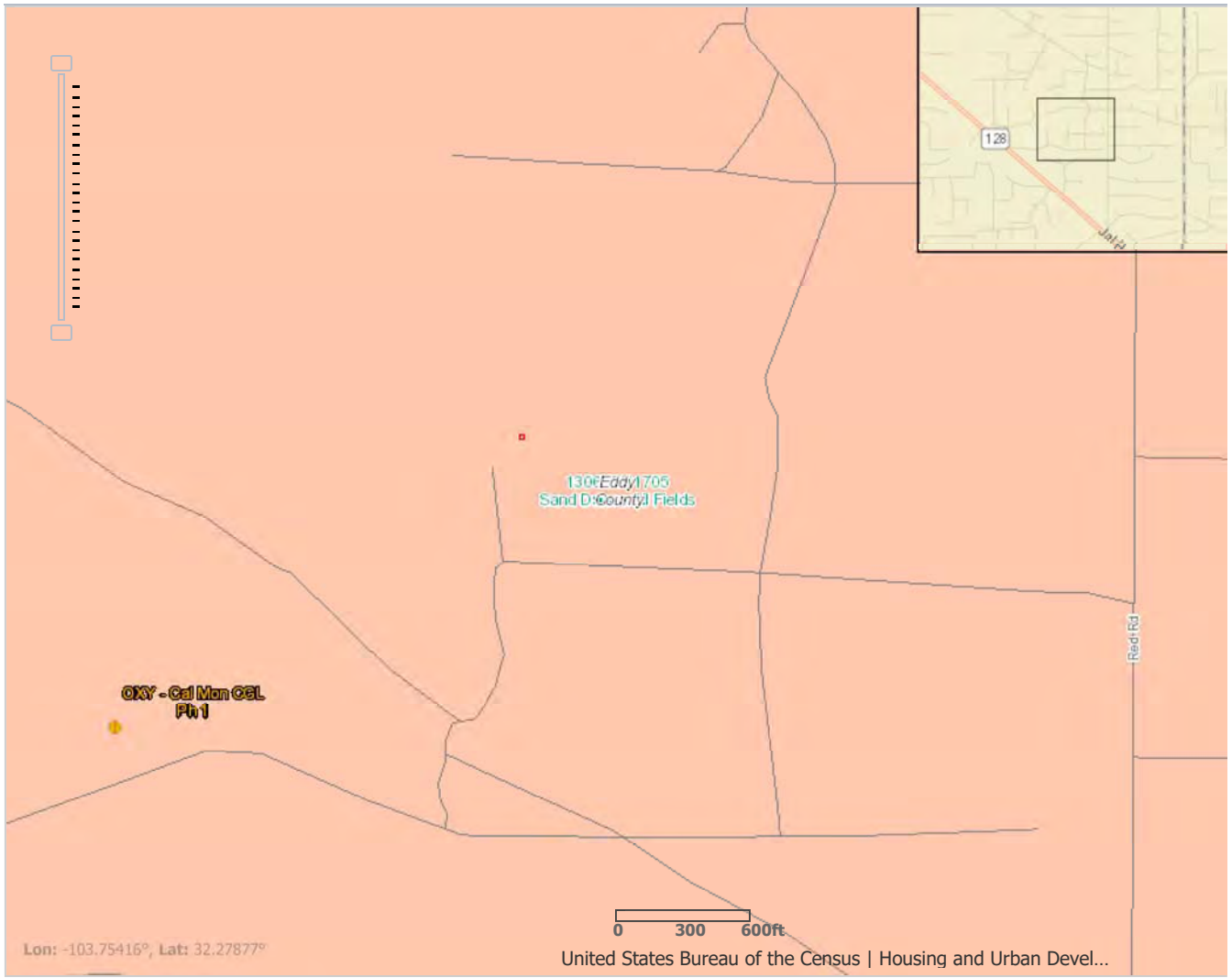
1:9,028

Legend

All Layers On/Off

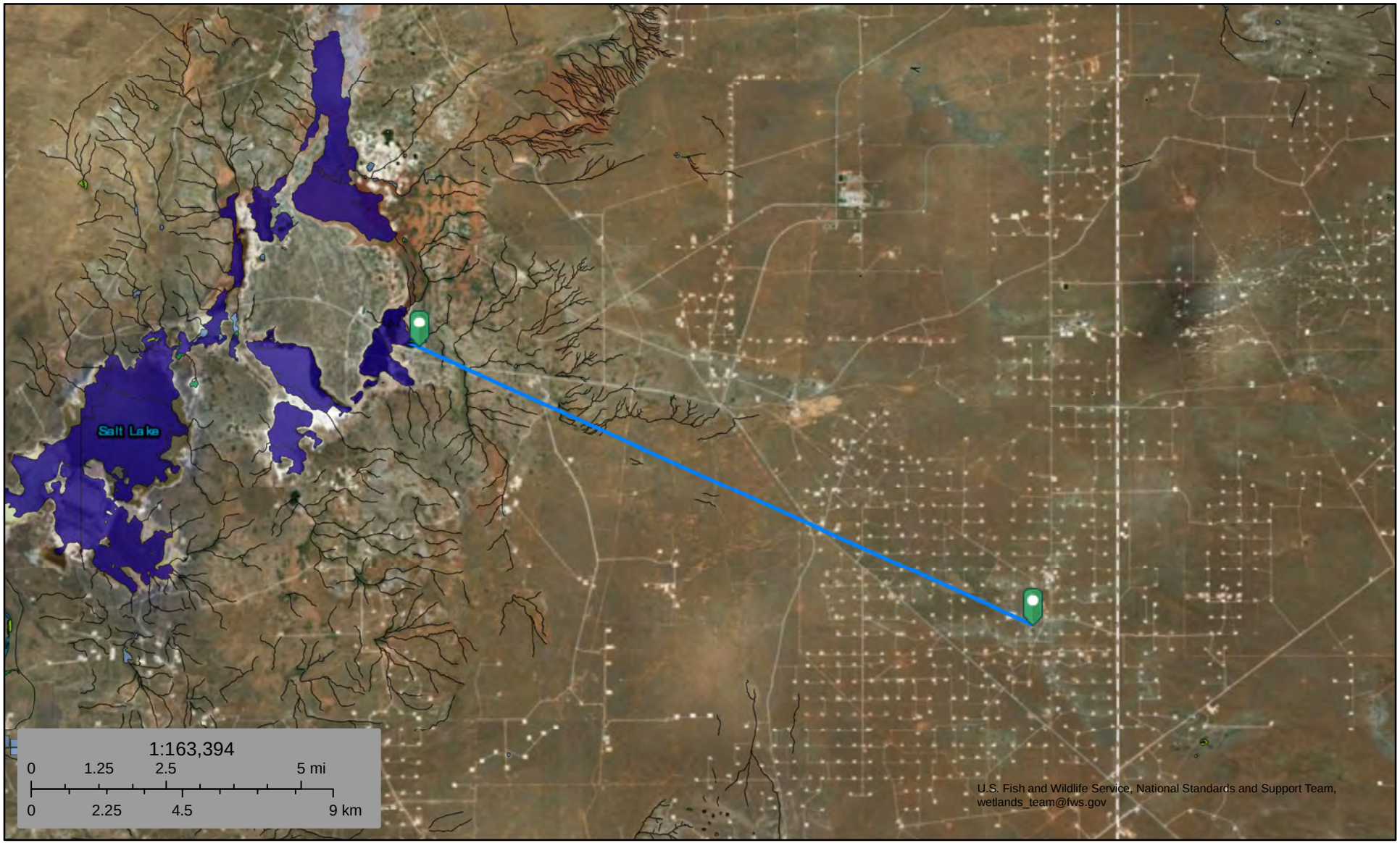
All Layer Transparency

- Roads
- Counties
- Air Emissions
- Air Facilities
- APS Food Facilities
- Dairies
- Brownfields
- Ground Water Discharge Permits
- State Cleanup Program
- Voluntary Remediation Program
- Superfund Sites
- Drinking Water Sources
- Hazardous Waste Facilities
- Landfills
- Petroleum Storage Tanks
- Leaking Tank Sites
- NPDES Permits
- Water Quality Stations
- Nonpoint Source Program
- Impaired Waters
- Assessed Waters
- National Hydrography Dataset
- Watershed Boundary Dataset
- Aquifer Sensitivity



U.S. Fish and Wildlife Service
National Wetlands Inventory

Todd 26 Fed 10 Nearest Lake 55,711 ft

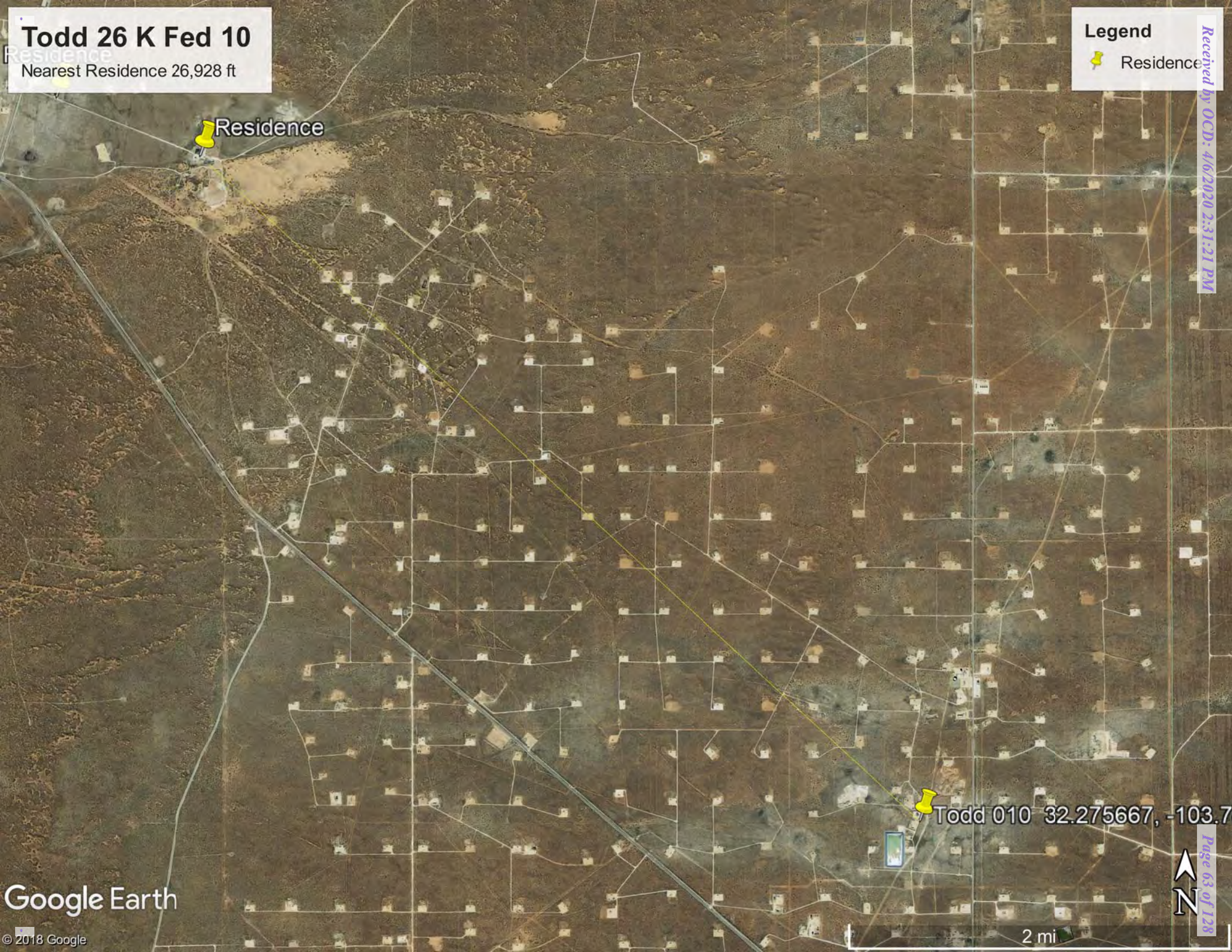


April 24, 2019

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.



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 3	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
C 02348	C	ED	Shallow	1	4	3	26	23S	31E	617648	3571068	396	10/31/2013	11/01/2013	11/07/2013	700	430	JOHN SIRMAN	1654
C 02258	C	ED			3	2	26	23S	31E	618055	3571853*	500	09/18/1992	09/18/1992	09/25/1992	662		CORKY GLENN	421
C 02405	CUB	ED	Shallow		4	1	02	24S	31E	617690	3568631*	2818	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*	2923	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*	3437	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*	3437	08/25/1995	08/25/1995	09/07/1995	320		GLENN, CLARK A."CORKY" (LD)	421
C 03749 POD1	CUB	LE	Shallow	3	4	4	07	23S	32E	616974	3575662	4285	07/10/2014	08/06/2014	09/11/2014	865	639	RANDY STEWART	331
C 02954 EXPL	CUB	ED	Shallow	3	1	4	20	23S	31E	613114	3572906*	4868	06/25/2003	07/29/2003	08/07/2003	905		BROCKMAN, BERNARD J.	1184
C 02783	CUB	ED	Shallow	3	3	1	04	24S	31E	613911	3568461	4871		12/31/1979	10/18/2010	708		SANDIA NATIONAL LABS/USGS	
C 02783 POD2	CUB	ED	Shallow	3	3	1	04	24S	31E	613911	3568461	4871	09/09/2010	09/29/2010	10/18/2010	672		BRUNSON, WILLIAM	331
C 02784	C	ED	Shallow	4	2	4	04	24S	31E	613911	3568461	4871	10/06/2010	10/08/2010	10/18/2010	584		BRUNSON, WILLIAM	331

Record Count: 11

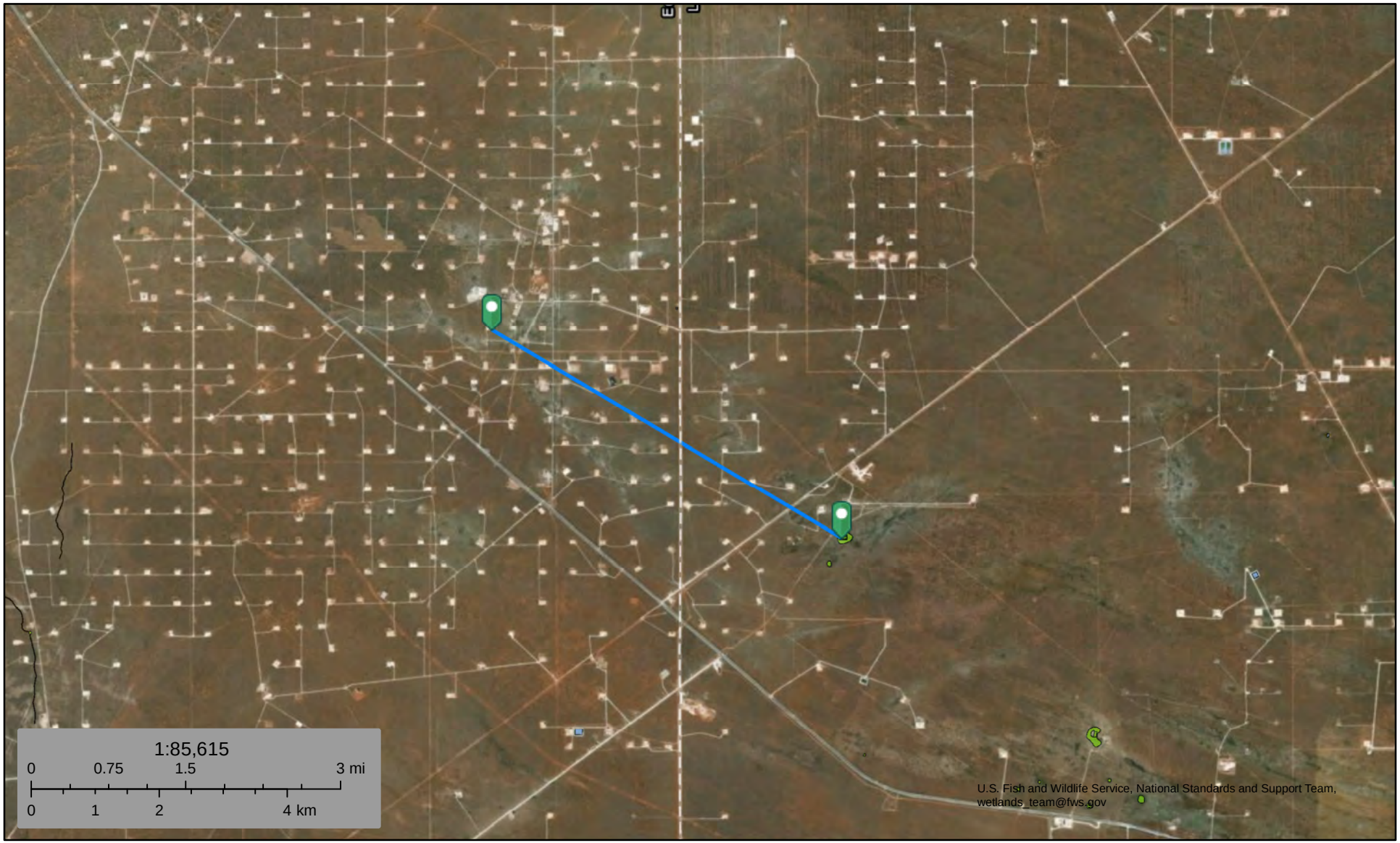
UTMNAD83 Radius Search (in meters):

Easting (X): 617758.94 **Northing (Y):** 3571449 **Radius:** 5000

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Todd 26 K Fed 10: Wetland 17,633 feet



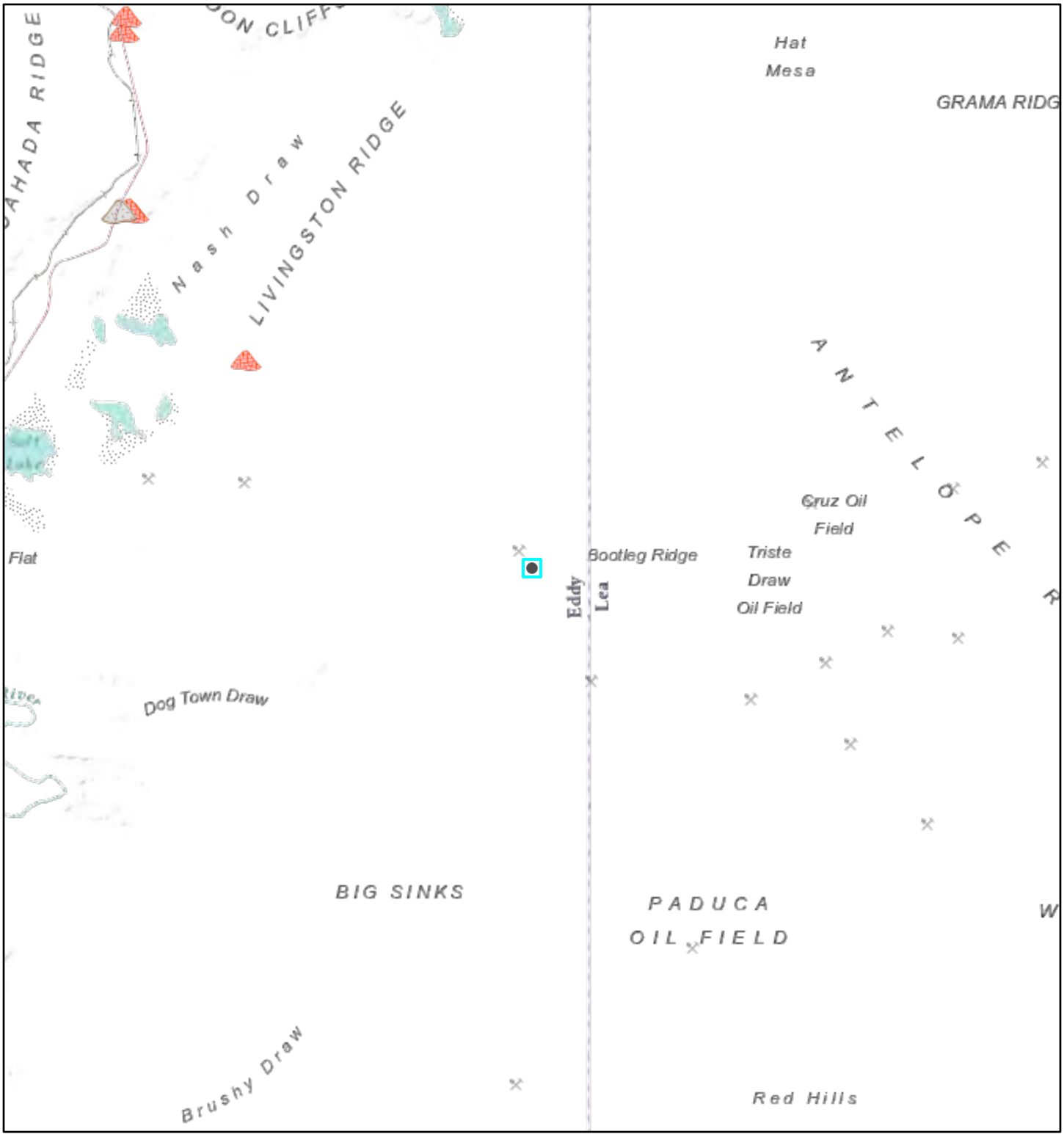
March 23, 2019

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.

Active Mines in New Mexico



3/23/2019, 5:09:52 PM

1:288,895

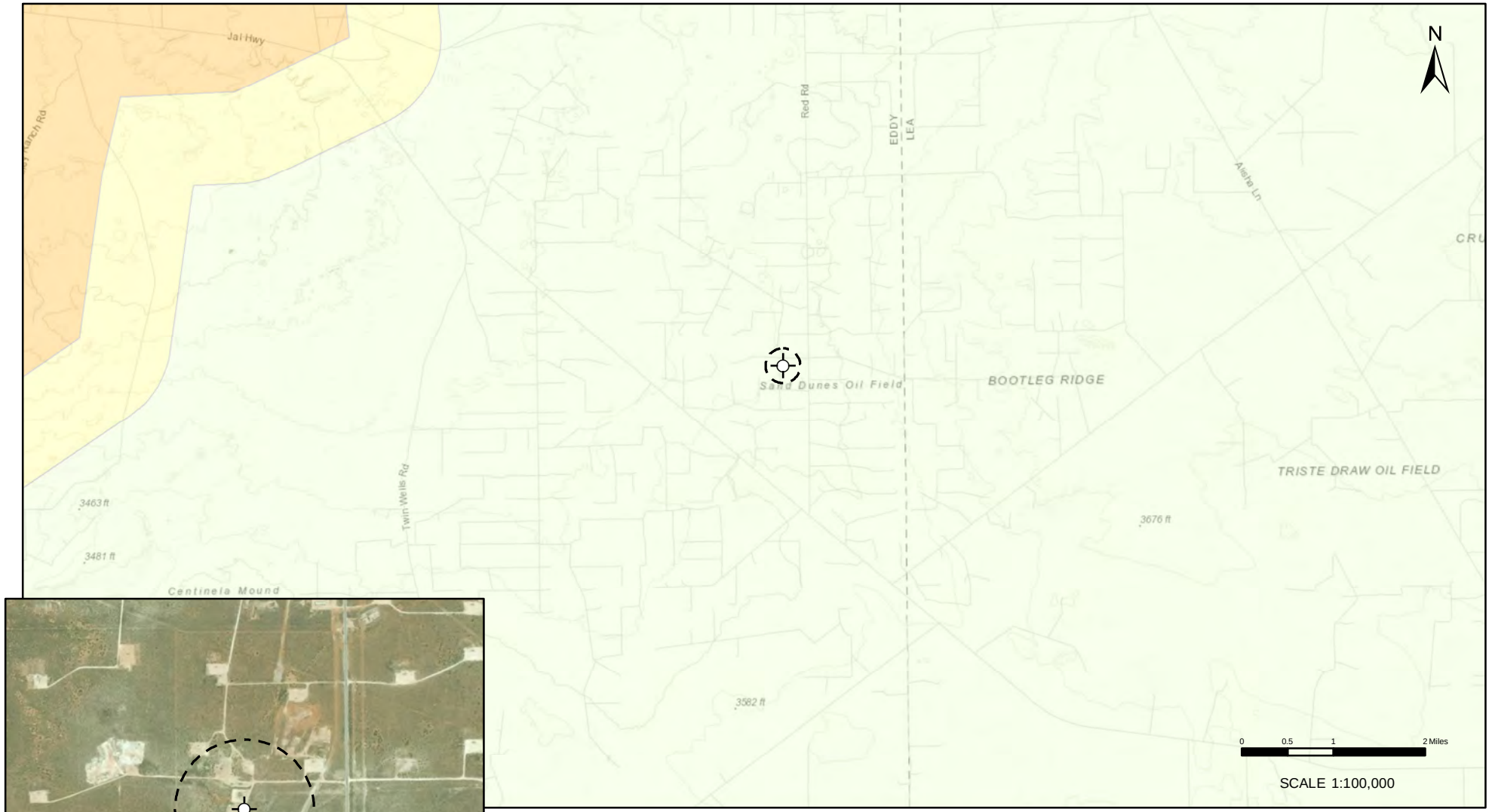
0 2 4 8 mi

0 3.25 6.5 13 km

Registered Mines

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

Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS



LEGEND

SITE

1000FT BUFFER

KARST POTENTIAL

CRITICAL

HIGH

MEDIUM

LOW

Notes: Aerial Image from ESRI Digital Globe 2017

devon

Karst Potential
Todd 26 K Federal 10

VERTEX

DRAWN:	NM
APPROVED:	KM
DATE:	APR 29/19

FIGURE: 1

VERSATILITY. EXPERTISE.

National Flood Hazard Layer FIRMette

FEMA

32°16'40.17"N

103°45'17.29"W

103°44'39.83"W

32°16'9.75"N

Feet

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

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 3/26/2019 at 10:49:52 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

April 24, 2019

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

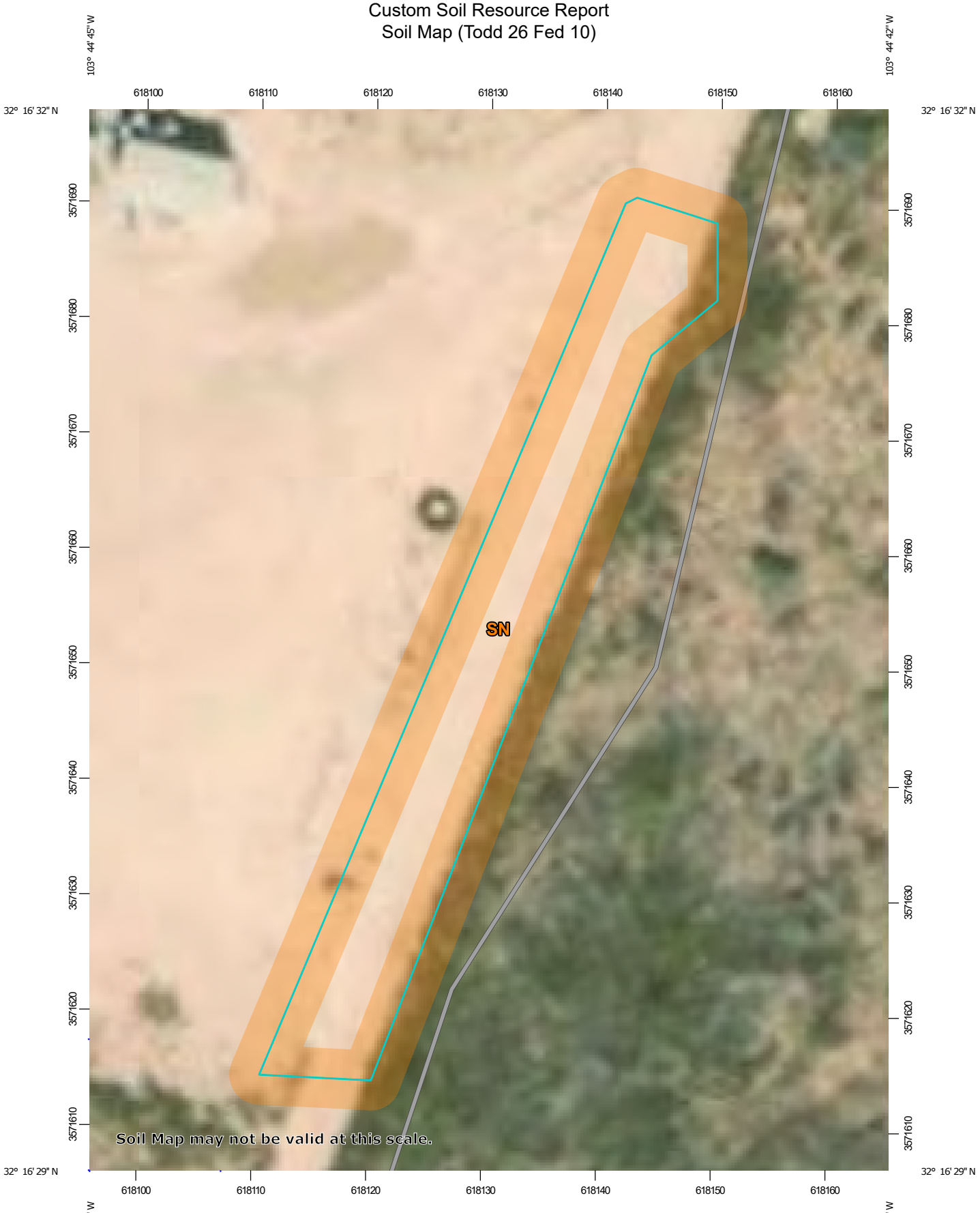
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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

Custom Soil Resource Report
Soil Map (Todd 26 Fed 10)



Map Scale: 1:449 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 5 10 20 30

Feet: 0 20 40 80 120

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 14, Sep 12, 2018

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 (Todd 26 Fed 10)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SN	Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded	0.2	100.0%
Totals for Area of Interest		**0.2**	**100.0%**

Map Unit Descriptions (Todd 26 Fed 10)

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

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

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

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

onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Eddy Area, New Mexico

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

Map Unit Setting

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

Map Unit Composition

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

Description of Simona

Setting

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

Typical profile

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

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: Shallow Sandy (R042XC002NM)
Hydric soil rating: No

Description of Wink

Setting

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

Typical profile

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

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Low (about 6.0 inches)

Interpretive groups

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

Minor Components

Dune land

Percent of map unit:
Hydric soil rating: No

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

ATTACHMENT 5

From: Dennis Williams
To: Dhugal Hanton; Kathlene Meadows
Subject: Fwd: Waste Manifest tickets.
Date: April 15, 2019 9:06:50 AM
Attachments: DEVON TICKETS.pdf

For the reporting
Get Outlook for iOS

From: Bobbie <bobby@bdsoilfield.com>
Sent: Monday, April 15, 2019 9:28 AM
To: Dennis Williams
Subject: RE: Waste Manifest tickets.

Good Morning Sir,

I have attached the R360 manifests and disposal tickets for the (2) Devon locations. I'm not clear about the (2) Marathon locations as I don't have any other paperwork. I have referred to my Salesman, Jerry Chavez for further info.

Please let me know if there is anything further you should need.

Best Regards,

Bobbie

Bobbie V. Black
BDS Enterprises, LLC.
2510 Monte Vista Street
Carlsbad, NM 88220
Office 575.689.8324 Ext 1001 - Fax 575.689.8325 - Cell 575.361.2774

From: Dennis Williams <DWilliams@vertex.ca>
Sent: Monday, April 15, 2019 8:50 AM
To: bobby@bdsoilfield.com
Cc: Dhugal Hanton <DHanton@vertex.ca>
Subject: Waste Manifest tickets.

Good morning Bobby.

Can you please scan and send me copies of the waste manifests from the following locations

Devon Energy
North Pure Gold 8 Federal 005
Todd 26 K Federal #010

Marathon Oil
Taylor Deep 12 Federal #009
Aid State #008.

Thank you in advance Bobby.

Dennis Williams
Environmental Earthworks Advisor

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

P 575.645.3111 Ext. 701
C 575.361.1137
F

www.vertex.ca

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	DEVON ENERGY PRODUCTIOI	Ticket #:	700-999090
Customer #:	CRI2450	Bid #:	O6UJ9A000D7S
Ordered by:	AMANDA DAVIS	Date:	4/6/2019
AFE #:		Generator:	DEVON ENERGY PRODUCTIC
PO #:		Generator #:	
Manifest #:	381201	Well Ser. #:	27102
Manif. Date:	4/6/2019	Well Name:	TODD 26 K FEDERAL
Hauler:	BDS TRUCKING	Well #:	010
Driver	CESAR	Field:	
Truck #	38	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

OK Per Jesse

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST
(PLEASE PRINT)

Amanda Davis

Company Man Contact Information
Name Dennis Williams
Phone No. 360-921-9135

GENERATOR

NO. 381201

Operator No. Devon Energy
Operators Name
Address
City, State, Zip
Phone No.

Permit/RRC No. T000 26 K Fed 10
Lease/Well Name & No.
County Eddy
API No. 3001527102
Rig Name & No. Non Drill
AFE/PO No.

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds
Oil Based Cuttings
Water Based Muds
Water Based Cuttings
Produced Formation Solids
Tank Bottoms
E&P Contaminated Soil ✓
Gas Plant Waste

NON-INJECTABLE WATERS
Washout Water (Non-Injectable)
Completion Fluid/Flow back (Non-Injectable)
Produced Water (Non-Injectable)
Gathering Line Water/Waste (Non-Injectable)
INTERNAL USE ONLY
Truck Washout (exempt waste)

INJECTABLE WATERS
Washout Water (Injectable)
Completion Fluid/Flow back (Injectable)
Produced Water (Injectable)
Gathering Line Water/Waste (Injectable)
OTHER EXEMPT WASTES (type and generation process of the waste)
non-drilling/Belly Dump

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☒ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other ________ *please select from Non-Exempt Waste List on back

QUANTITY B - BARRELS L - LIQUID (Y - YARDS) 20 E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

Amanda Davis — (PRINT) AUTHORIZED AGENTS NAME; 4-6-19 — DATE; [signature] — SIGNATURE

TRANSPORTER

Transporter's Name BDS
Address
Phone No. 575-689-8324

Driver's Name Cesar
Print Name
Phone No.
Truck No. #38

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

4-6-19 — SHIPMENT DATE; [signature] — DRIVER'S SIGNATURE; 4-6-19 — DELIVERY DATE; [signature] — DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: ________ OUT: ________

DISPOSAL FACILITY

RECEIVING AREA
Name/No. 50151

Site Name/ Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES (NO)
If YES, was reading > 50 micro roentgens? (circle one) YES (NO)
PASS THE PAINT FILTER TEST? (Circle One) (YES) NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

		BS&W (%)
BS&W/BBLS Received		
Free Water		
Total Received		

I hereby certify that the above load material has been (circle one): (ACCEPTED) DENIED If denied, why?

J Martinez — NAME (PRINT); 4/6 — DATE; Adm Asst — TITLE; [signature] — SIGNATURE

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	DEVON ENERGY PRODUCTIOI	Ticket #:	700-999088
Customer #:	CRI2450	Bid #:	O6UJ9A000D7S
Ordered by:	AMANDA DAVIS	Date:	4/6/2019
AFE #:		Generator:	DEVON ENERGY PRODUCTIC
PO #:		Generator #:	
Manifest #:	381204	Well Ser. #:	27598
Manif. Date:	4/6/2019	Well Name:	NORTH PURE GOLD 8 FEDEI
Hauler:	BDS TRUCKING	Well #:	005
Driver	CESAR	Field:	
Truck #	38	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

_ MSDS Information _ RCRA Hazardous Waste Analysis _ Process Knowledge _ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Amanda Davis
Phone No.

GENERATOR

NO. 381204

Operator No. Devon Energy
Operators Name
Address 6488 Seven Rivers Highway
City, State, Zip Artesia, NM 88210
Phone No. 505-350-1336

Permit/RRC No.
Lease/Well Name & No. North Pure Gold 9 Federal 5
County Eddy
API No. 30015 27598
Rig Name & No.
AFE/PO No.

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	20	Truck Washout (exempt waste)		Belly Dump	
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☒ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity

Non-Exempt Other **please select from Non-Exempt Waste List on back*

QUANTITY B - BARRELS L - LIQUID Y - YARDS 20 E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFIELD: Emergency non-hazardous, non-oilfield waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a description of the waste must accompany this form)

Amanda Davis per Robyn Fisher Vertex April 6, 2019
(PRINT) AUTHORIZED AGENTS NAME DATE SIGNATURE

TRANSPORTER

BOS

Transporter's Name
Address
Phone No.
Driver's Name
Print Name Cesar
Phone No.
Truck No. 45

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

4-6-19 SHIPMENT DATE — DRIVER'S SIGNATURE
4-6-19 DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP IN: OUT:

RECEIVING AREA Name/No. 30 J

Site Name/Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) DATE TITLE SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	DEVON ENERGY PRODUCTIOI	Ticket #:	700-999087
Customer #:	CRI2450	Bid #:	O6UJ9A000D7S
Ordered by:	AMANDA DAVIS	Date:	4/6/2019
AFE #:		Generator:	DEVON ENERGY PRODUCTIC
PO #:		Generator #:	
Manifest #:	381203	Well Ser. #:	27102
Manif. Date:	4/6/2019	Well Name:	TODD 26 K FEDERAL
Hauler:	MUNOZ TRANSPORTATION, LI	Well #:	010
Driver	CRISTIAN	Field:	
Truck #	01	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	12.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST
(PLEASE PRINT)

Amanda Davis
Company Man Contact Information
Name Dennis Williams
Phone No. 360-921-9135

GENERATOR

NO. 381203

Operator No. Devon Energy
Operators Name
Address 6488 Seven Rivers Highway
City, State, Zip Artesia, NM 88210
Phone No. 505-350-1336

Permit/RRC No.
Lease/Well Name & No. ~~Todd 26K Federal 10~~ ~~North Pure Gold 8 Fed 05~~
County
API No. ~~3001527599~~ 30015275__
Rig Name & No. Non Drill
AFE/PO No.

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)		non-drilling Dump Truck	
E&P Contaminated Soil	12yds				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☒ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other ____ *please select from Non-Exempt Waste List on back

QUANTITY   B - BARRELS   L - LIQUID   (Y - YARDS) 12   E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

Amanda Davis per Robyn Fisher Varter   4-6-19   [signature]
(PRINT) AUTHORIZED AGENTS NAME   DATE   SIGNATURE

TRANSPORTER

Transporter's Name X Muñoz trasportation
Address
Dump Truck
Phone No.

Driver's Name X Cristian Escobedo
Print Name
Phone No. X (575) 499 5298
Truck No. 01

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

4-6-19 (SHIPMENT DATE)   X Cristian E. (DRIVER'S SIGNATURE)   4/6 (DELIVERY DATE)   Cristian Escobedo (DRIVER'S SIGNATURE)

TRUCK TIME STAMP
IN: ____ OUT: ____

DISPOSAL FACILITY

RECEIVING AREA
Name/No. 50157

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES (NO)   If YES, was reading > 50 micro roentgens? (circle one) YES (NO)
PASS THE PAINT FILTER TEST? (Circle One) (YES) NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

		BS&W (%)
BS&W/BBLS Received		
Free Water		
Total Received		

I hereby certify that the above load material has been (circle one): (ACCEPTED) DENIED If denied, why?

J Martinez (NAME (PRINT))   4/6 (DATE)   Ad ASST (TITLE)   J Mar (SIGNATURE)

C-138   White - R360 ORIGINAL   Yellow - TRANSPORTER COPY   Pink - GENERATOR SITE COPY   Gold - RETURN TO GENERATOR   Version 1

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	DEVON ENERGY PRODUCTIOI	Ticket #:	700-999086
Customer #:	CRI2450	Bid #:	O6UJ9A000D7S
Ordered by:	AMANDA DAVIS	Date:	4/6/2019
AFE #:		Generator:	DEVON ENERGY PRODUCTIC
PO #:		Generator #:	
Manifest #:	381591	Well Ser. #:	27598
Manif. Date:	4/6/2019	Well Name:	NORTH PURE GOLD 8 FEDEI
Hauler:	MUNOZ TRANSPORTATION, LI	Well #:	005
Driver	CRISTIAN	Field:	
Truck #	01	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	12.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name
Phone No.

GENERATOR

NO. 381591

Operator No.
Operators Name: DeVon Energy
Address: 6488 Seven Rivers Highway
City, State, Zip: Artesia, NM, 88210
Phone No.: 505-360-1336

Permit/RRC No.
Lease/Well Name & No.: North Pure Gold 8 Federal 5
County: Eddy
API No.: 30-015-27598
Rig Name & No.
AFE/PO No.

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (Type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)		Dump Truck	
E&P Contaminated Soil	12				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☒ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other: *please select from Non-Exempt Waste List on back

QUANTITY B - BARRELS L - LIQUID (Y - YARDS) 12 E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazardous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a description of the waste must accompany this form)

Amanda Davis per Robyn Fisher Verter — (PRINT) AUTHORIZED AGENTS NAME
Apr. 6, 2019 — DATE
SIGNATURE

TRANSPORTER

Transporter's Name: Mendez Transportation
Address
Phone No.
Driver's Name: Cristian Escobedo
Print Name
Phone No.: 5754795269
Truck No.: 01

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

4-6-19 — SHIPMENT DATE
Cristian G. — DRIVER'S SIGNATURE
4-6-19 — DELIVERY DATE
Cristian G. — DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: OUT:

DISPOSAL FACILITY

RECEIVING AREA Name/No. 50/51

Site Name/Permit No.: Halfway Facility / NM1-006
Address: 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No.: 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO
If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

T Mathews — NAME (PRINT)
4/6 — DATE
Ad Ass — TITLE
SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	DEVON ENERGY PRODUCTIOI	Ticket #:	700-999085
Customer #:	CRI2450	Bid #:	O6UJ9A000D7S
Ordered by:	AMANDA DAVIS	Date:	4/6/2019
AFE #:		Generator:	DEVON ENERGY PRODUCTIK
PO #:		Generator #:	
Manifest #:	381205	Well Ser. #:	27598
Manif. Date:	4/6/2019	Well Name:	NORTH PURE GOLD 8 FEDE
Hauler:	MUNOZ TRANSPORTATION, LI	Well #:	005
Driver	CRISTIAN	Field:	
Truck #	01	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	12.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

_ MSDS Information _ RCRA Hazardous Waste Analysis _ Process Knowledge _ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name
Phone No.

NO. 381205

GENERATOR

Operator No.
Operators Name: Devon Energy
Address: 6488 Seven Rivers Highway
City, State, Zip: Artesia, NM 88210
Phone No.: 505-350-1336

Permit/RRC No.
Lease/Well Name & No.: North Pure gold 8 Federal 5
County: Eddy
API No.: 30-015-27598
Rig Name & No.
AFE/PO No.

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS	INJECTABLE WATERS
Oil Based Cuttings		Washout Water (Non-Injectable)	Washout Water (Injectable)
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)	Completion Fluid/Flow back (Injectable)
Water Based Cuttings		Produced Water (Non-injectable)	Produced Water (Injectable)
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)	Gathering Line Water/Waste (Injectable)
Tank Bottoms		INTERNAL USE ONLY	OTHER EXEMPT WASTES (type and generation process of the waste)
E&P Contaminated Soil	12	Truck Washout (exempt waste)	
Gas Plant Waste			

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☒ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other — *please select from Non-Exempt Waste List on back

QUANTITY — B - BARRELS — L - LIQUID — Y - YARDS 12 — E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☑ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazrdous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a description of the waste must accompany this form)

Amanda Davis per Robyn Fisher Vertex — (PRINT) AUTHORIZED AGENTS NAME
April 6, 2019 — DATE
SIGNATURE

TRANSPORTER

Transporter's Name: Maniac transportation
Address
Phone No.
Driver's Name: Cristian Escabedo
Print Name
Phone No.: (575) 499-5298
Truck No.

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

April 6, 2019 — SHIPMENT DATE — Cristian E. — DRIVER'S SIGNATURE
April 6, 2019 — DELIVERY DATE — Cristian E. — DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: OUT:

DISPOSAL FACILITY

Site Name/Permit No.: Halfway Facility / NM1-006
Address: 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No.: 575-393-1079

RECEIVING AREA Name/No. 5015

NORM READINGS TAKEN? (Circle One) YES NO — If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

FLORA V. — NAME (PRINT)
4/6/19 — DATE
admin — FIELD
SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	DEVON ENERGY PRODUCTIOI	Ticket #:	700-999083
Customer #:	CRI2450	Bid #:	O6UJ9A000D7S
Ordered by:	AMANDA DAVIS	Date:	4/6/2019
AFE #:		Generator:	DEVON ENERGY PRODUCTIC
PO #:		Generator #:	
Manifest #:	381590	Well Ser. #:	27598
Manif. Date:	4/6/2019	Well Name:	NORTH PURE GOLD 8 FED I
Hauler:	BDS TRUCKING	Well #:	005
Driver	CESAR	Field:	
Truck #	38	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST
(PLEASE PRINT)

Company Man Contact Information
Name
Phone No.

GENERATOR

NO. 381590

Operator No.
Operators Name: Devon Energy
Address: 6488 Seven Rivers Highway
City, State, Zip: Artesia, NM 88210
Phone No.: 505-350-1336

Permit/RRC No.
Lease/Well Name & No.: North Pure Gold 8 Federal 5
County: Eddy
API No.: 30-015-27598
Rig Name & No.
AFE/PO No.

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

	NON-INJECTABLE WATERS	INJECTABLE WATERS
Oil Based Muds	Washout Water (Non-Injectable)	Washout Water (Injectable)
Oil Based Cuttings	Completion Fluid/Flow back (Non-Injectable)	Completion Fluid/Flow back (Injectable)
Water Based Muds	Produced Water (Non-Injectable)	Produced Water (Injectable)
Water Based Cuttings	Gathering Line Water/Waste (Non-Injectable)	Gathering Line Water/Waste (Injectable)
Produced Formation Solids	INTERNAL USE ONLY	OTHER EXEMPT WASTES (type and generation process of the waste)
Tank Bottoms	Truck Washout (exempt waste)	
E&P Contaminated Soil: 20 yards		
Gas Plant Waste		

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analyzed and be below the threshold limits for toxicity (TCLP), ignitability, corrosivity and reactivity.

Non-Exempt Other *please select from Non-Exempt Waste List on back

QUANTITY B - BARRELS L - LIQUID (Y - YARDS) 20 E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a description of the waste must accompany this form)

Amanda Davis per Robyn Fisher Vertex — (PRINT) AUTHORIZED AGENT'S NAME
April 6, 2019 — DATE
SIGNATURE

TRANSPORTER

BOS

Transporter's Name
Address
Phone No.
Driver's Name: Cesar
Print Name
Phone No.
Truck No.: 38

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

4-6-19 — SHIPMENT DATE — DRIVER'S SIGNATURE
4-6-19 — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No. SOIS1

Site Name/Permit No.: Halfway Facility / NM1-006
Address: 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No.: 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO
If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

FLORA — NAME (PRINT)
4/5/19 — DATE
admin — TITLE
SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	DEVON ENERGY PRODUCTIOI	Ticket #:	700-999079
Customer #:	CRI2450	Bid #:	O6UJ9A000D7S
Ordered by:	AMANDA DAVIS	Date:	4/6/2019
AFE #:		Generator:	DEVON ENERGY PRODUCTIC
PO #:		Generator #:	
Manifest #:	381592	Well Ser. #:	27598
Manif. Date:	4/6/2019	Well Name:	NORTH PURE GOLD 8 FEDEI
Hauler:	BDS TRUCKING	Well #:	005
Driver	CESAR	Field:	
Truck #	38	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	15.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

_ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

_ MSDS Information _ RCRA Hazardous Waste Analysis _ Process Knowledge _ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST
(PLEASE PRINT)

Company Man Contact Information
Name Amanda Davis
Phone No.

GENERATOR

NO. 381592

Operator No.		Permit/RRC No.	
Operators Name	Devon Energy	Lease/Well Name & No.	North Pure Gold 8 Federal 5
Address	6488 Seven Rivers highway	County	Eddy
		API No.	30-015-27598
City, State, Zip	Artesia, NM 88210	Rig Name & No.	Run Drill
Phone No.	505-350-1336	AFE/PO No.	

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)		Belly Dump	
E&P Contaminated Soil	15 yards				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☒ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity

Non-Exempt Other ______ *please select from Non-Exempt Waste List on back*

QUANTITY B - BARRELS L - LIQUID (Y - YARDS) 15 E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☑ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

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☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

Amanda Davis Per Robyn Fisher Vertex April 6, 2019 [signature]
(PRINT) AUTHORIZED AGENTS NAME DATE SIGNATURE

TRANSPORTER

Transporter's Name	BOS	Driver's Name	Cesar
Address		Print Name	
		Phone No.	
Phone No.		Truck No.	#380

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

4-6-19 [signature] 4-6-19 [signature]
SHIPMENT DATE DRIVER'S SIGNATURE DELIVERY DATE DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: ______ OUT: ______

DISPOSAL FACILITY

RECEIVING AREA
Name/No. 50/51

Site Name/ Permit No.	Halfway Facility / NM1-006	Phone No.	575-393-1079
Address	6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220		

NORM READINGS TAKEN? (Circle One) YES (NO) If YES, was reading > 50 micro roentgens? (circle one) YES (NO)
PASS THE PAINT FILTER TEST? (Circle One) (YES) NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): (ACCEPTED) DENIED If denied, why?

Y Martinez 4/6 Ad Asst [signature]
NAME (PRINT) DATE TITLE SIGNATURE

ATTACHMENT 6

Table 3. Soil Characterization - Salinity and Petroleum Hydrocarbon Parameters
Devon Energy
Well/Facility: Todd 26K Federal 10
Project #: 19E-00575-003
Lab Report: 1904171

Table 3. Soil Analysis - April 8 , 2019																	
Sample Description			Field Screening			Petroleum Hydrocarbons											Inorganic
						Volatile					Extractable						
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag	Quantab Result	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	GRO + DRO	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SS19-01	**0**	4/2/2019	0	80	74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	130
SS19-01	**1**	4/2/2019	0	20	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	420
SS19-02	**0**	4/2/2019	0	0	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS19-03	**0**	4/2/2019	0	40	0	ND	ND	ND	ND	ND	ND	15	ND	15	15	78
SS19-04	**0**	4/2/2019	0	350	2,245	ND	ND	ND	ND	ND	ND	100	84	100	184	2100
SS19-05	**0**	4/2/2019	0	370	1,896	ND	ND	ND	ND	ND	ND	60	87	60	147	5000
SS19-06	**0**	4/2/2019	0	0	532	ND	ND	ND	ND	ND	ND	38	59	38	97	1600
SS19-07	**0**	4/2/2019	0	20	74	ND	ND	ND	ND	ND	ND	29	49	29	78	220
SS19-08	**0**	4/2/2019	0	0	0	ND	ND	ND	ND	ND	ND	12	ND	12	12	110
SS19-09	**0**	4/2/2019	0	110	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70
SS19-10	**0**	4/2/2019	0	110	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110

Bold and Shaded indicates exceedance outside of criteria concentration.

VERTEX

ATTACHMENT 7

From: Dennis Williams
To: Bratcher, Mike, EMNRD; James Amos; dmckinne@blm.gov
Cc: amanda.davis@dvn.com; Price, Henryetta (Contract); Dhugal Hanton; Robyn Fisher
Subject: Todd 6 K Federal #10 2RP-5222
Date: April 1, 2019 11:48:54 AM

Good afternoon.

Please accept this email as notification that Vertex will be taking confirmatory samples from the above mentioned location on Tuesday, April 2nd 2019 at 1:00 pm.

If you would like to facilitate a onsite meeting, or any questions or concerns please reply back to this email.

Thank you.

Dennis Williams
Environmental Earthworks Advisor

Vertex Resource Services Inc
1101 Callaway Drive Unit 2103 New Mexico
Carlsbad, 88220

P 281.977.7886
C 575.361.1137
F

www.vertex.ca

ATTACHMENT 8

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 08, 2019

Dennis Williams

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 888210
TEL: (575) 748-0176
FAX

RE: Todd 26K Federal 10 OrderNo.: 1904171

Dear Dennis Williams:

Hall Environmental Analysis Laboratory received 11 sample(s) on 4/3/2019 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 **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-001 **Matrix:** SOIL

Client Sample ID: SS19-01 (0)
Collection Date: 4/2/2019 1:52:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/6/2019 7:39:14 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 7:39:14 PM
Surr: DNOP	85.7	70-130		%Rec	1	4/6/2019 7:39:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/6/2019 9:05:25 AM
Surr: BFB	95.1	73.8-119		%Rec	1	4/6/2019 9:05:25 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/6/2019 9:05:25 AM
Toluene	ND	0.048		mg/Kg	1	4/6/2019 9:05:25 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/6/2019 9:05:25 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/6/2019 9:05:25 AM
Surr: 4-Bromofluorobenzene	97.3	80-120		%Rec	1	4/6/2019 9:05:25 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	130	60		mg/Kg	20	4/5/2019 7:22:01 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-002 **Matrix:** SOIL

Client Sample ID: SS19-01 (1)
Collection Date: 4/2/2019 1:57:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 8:01:28 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 8:01:28 PM
Surr: DNOP	82.2	70-130		%Rec	1	4/6/2019 8:01:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/6/2019 9:28:51 AM
Surr: BFB	95.2	73.8-119		%Rec	1	4/6/2019 9:28:51 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/6/2019 9:28:51 AM
Toluene	ND	0.049		mg/Kg	1	4/6/2019 9:28:51 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/6/2019 9:28:51 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/6/2019 9:28:51 AM
Surr: 4-Bromofluorobenzene	96.1	80-120		%Rec	1	4/6/2019 9:28:51 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	420	60		mg/Kg	20	4/5/2019 7:59:15 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-003 **Matrix:** SOIL

Client Sample ID: SS19-02 (0)
Collection Date: 4/2/2019 1:41:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/6/2019 8:23:39 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/6/2019 8:23:39 PM
Surr: DNOP	82.1	70-130		%Rec	1	4/6/2019 8:23:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/6/2019 9:52:13 AM
Surr: BFB	91.6	73.8-119		%Rec	1	4/6/2019 9:52:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/6/2019 9:52:13 AM
Toluene	ND	0.048		mg/Kg	1	4/6/2019 9:52:13 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/6/2019 9:52:13 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/6/2019 9:52:13 AM
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	4/6/2019 9:52:13 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/5/2019 8:11:39 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-004 **Matrix:** SOIL

Client Sample ID: SS19-03 (0)
Collection Date: 4/2/2019 1:31:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	15	9.4		mg/Kg	1	4/6/2019 8:45:54 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/6/2019 8:45:54 PM
Surr: DNOP	87.0	70-130		%Rec	1	4/6/2019 8:45:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/6/2019 10:15:35 AM
Surr: BFB	94.2	73.8-119		%Rec	1	4/6/2019 10:15:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/6/2019 10:15:35 AM
Toluene	ND	0.048		mg/Kg	1	4/6/2019 10:15:35 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/6/2019 10:15:35 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/6/2019 10:15:35 AM
Surr: 4-Bromofluorobenzene	94.8	80-120		%Rec	1	4/6/2019 10:15:35 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	78	60		mg/Kg	20	4/5/2019 8:24:04 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-005 **Matrix:** SOIL

Client Sample ID: SS19-04 (0)
Collection Date: 4/2/2019 2:08:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	100	9.2		mg/Kg	1	4/6/2019 9:08:02 PM
Motor Oil Range Organics (MRO)	84	46		mg/Kg	1	4/6/2019 9:08:02 PM
Surr: DNOP	85.5	70-130		%Rec	1	4/6/2019 9:08:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/6/2019 10:38:53 AM
Surr: BFB	88.9	73.8-119		%Rec	1	4/6/2019 10:38:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/6/2019 10:38:53 AM
Toluene	ND	0.047		mg/Kg	1	4/6/2019 10:38:53 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/6/2019 10:38:53 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/6/2019 10:38:53 AM
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	4/6/2019 10:38:53 AM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	2100	150		mg/Kg	50	4/7/2019 11:04:22 AM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-006 **Matrix:** SOIL

Client Sample ID: SS19-05 (0)
Collection Date: 4/2/2019 2:11:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	60	9.1		mg/Kg	1	4/4/2019 4:50:42 PM
Motor Oil Range Organics (MRO)	87	46		mg/Kg	1	4/4/2019 4:50:42 PM
Surr: DNOP	84.8	70-130		%Rec	1	4/4/2019 4:50:42 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	5000	150		mg/Kg	50	4/7/2019 11:16:46 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 6:37:41 PM
Toluene	ND	0.048		mg/Kg	1	4/5/2019 6:37:41 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 6:37:41 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 6:37:41 PM
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%Rec	1	4/5/2019 6:37:41 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/5/2019 6:37:41 PM
Surr: Dibromofluoromethane	93.6	70-130		%Rec	1	4/5/2019 6:37:41 PM
Surr: Toluene-d8	92.2	70-130		%Rec	1	4/5/2019 6:37:41 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 6:37:41 PM
Surr: BFB	99.0	70-130		%Rec	1	4/5/2019 6:37:41 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-007 **Matrix:** SOIL

Client Sample ID: SS19-06 (0)
Collection Date: 4/2/2019 2:20:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	38	9.5		mg/Kg	1	4/4/2019 5:57:19 PM
Motor Oil Range Organics (MRO)	59	47		mg/Kg	1	4/4/2019 5:57:19 PM
Surr: DNOP	47.3	70-130	S	%Rec	1	4/4/2019 5:57:19 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	1600	60		mg/Kg	20	4/5/2019 9:01:18 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/5/2019 8:03:23 PM
Toluene	ND	0.049		mg/Kg	1	4/5/2019 8:03:23 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/5/2019 8:03:23 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/5/2019 8:03:23 PM
Surr: 1,2-Dichloroethane-d4	89.6	70-130		%Rec	1	4/5/2019 8:03:23 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/5/2019 8:03:23 PM
Surr: Dibromofluoromethane	89.9	70-130		%Rec	1	4/5/2019 8:03:23 PM
Surr: Toluene-d8	91.6	70-130		%Rec	1	4/5/2019 8:03:23 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/5/2019 8:03:23 PM
Surr: BFB	104	70-130		%Rec	1	4/5/2019 8:03:23 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-008 **Matrix:** SOIL

Client Sample ID: SS19-07 (0)
Collection Date: 4/2/2019 2:42:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	29	9.7		mg/Kg	1	4/4/2019 6:19:27 PM
Motor Oil Range Organics (MRO)	49	49		mg/Kg	1	4/4/2019 6:19:27 PM
Surr: DNOP	49.7	70-130	S	%Rec	1	4/4/2019 6:19:27 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	220	60		mg/Kg	20	4/5/2019 9:13:43 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 9:29:01 PM
Toluene	ND	0.048		mg/Kg	1	4/5/2019 9:29:01 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 9:29:01 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 9:29:01 PM
Surr: 1,2-Dichloroethane-d4	91.6	70-130		%Rec	1	4/5/2019 9:29:01 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/5/2019 9:29:01 PM
Surr: Dibromofluoromethane	91.3	70-130		%Rec	1	4/5/2019 9:29:01 PM
Surr: Toluene-d8	93.4	70-130		%Rec	1	4/5/2019 9:29:01 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 9:29:01 PM
Surr: BFB	104	70-130		%Rec	1	4/5/2019 9:29:01 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-009 **Matrix:** SOIL

Client Sample ID: SS19-08 (0)
Collection Date: 4/2/2019 2:25:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	12	9.8		mg/Kg	1	4/4/2019 6:41:45 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/4/2019 6:41:45 PM
Surr: DNOP	39.0	70-130	S	%Rec	1	4/4/2019 6:41:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	110	60		mg/Kg	20	4/5/2019 9:26:07 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 9:57:30 PM
Toluene	ND	0.048		mg/Kg	1	4/5/2019 9:57:30 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 9:57:30 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 9:57:30 PM
Surr: 1,2-Dichloroethane-d4	88.5	70-130		%Rec	1	4/5/2019 9:57:30 PM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	4/5/2019 9:57:30 PM
Surr: Dibromofluoromethane	89.4	70-130		%Rec	1	4/5/2019 9:57:30 PM
Surr: Toluene-d8	93.3	70-130		%Rec	1	4/5/2019 9:57:30 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 9:57:30 PM
Surr: BFB	102	70-130		%Rec	1	4/5/2019 9:57:30 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-010 **Matrix:** SOIL

Client Sample ID: SS19-09 (0)
Collection Date: 4/2/2019 2:03:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/4/2019 7:03:45 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/4/2019 7:03:45 PM
Surr: DNOP	54.0	70-130	S	%Rec	1	4/4/2019 7:03:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	70	60		mg/Kg	20	4/5/2019 9:38:32 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 10:26:02 PM
Toluene	ND	0.047		mg/Kg	1	4/5/2019 10:26:02 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/5/2019 10:26:02 PM
Xylenes, Total	ND	0.095		mg/Kg	1	4/5/2019 10:26:02 PM
Surr: 1,2-Dichloroethane-d4	87.6	70-130		%Rec	1	4/5/2019 10:26:02 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/5/2019 10:26:02 PM
Surr: Dibromofluoromethane	89.9	70-130		%Rec	1	4/5/2019 10:26:02 PM
Surr: Toluene-d8	96.0	70-130		%Rec	1	4/5/2019 10:26:02 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/5/2019 10:26:02 PM
Surr: BFB	106	70-130		%Rec	1	4/5/2019 10:26:02 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1904171**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Todd 26K Federal 10
Lab ID: 1904171-011 **Matrix:** SOIL

Client Sample ID: SS19-10 (0)
Collection Date: 4/2/2019 1:46:00 PM
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/4/2019 7:25:57 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/4/2019 7:25:57 PM
Surr: DNOP	42.6	70-130	S	%Rec	1	4/4/2019 7:25:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	110	60		mg/Kg	20	4/5/2019 10:40:34 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 10:54:37 PM
Toluene	ND	0.049		mg/Kg	1	4/5/2019 10:54:37 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/5/2019 10:54:37 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/5/2019 10:54:37 PM
Surr: 1,2-Dichloroethane-d4	88.3	70-130		%Rec	1	4/5/2019 10:54:37 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/5/2019 10:54:37 PM
Surr: Dibromofluoromethane	93.4	70-130		%Rec	1	4/5/2019 10:54:37 PM
Surr: Toluene-d8	93.8	70-130		%Rec	1	4/5/2019 10:54:37 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/5/2019 10:54:37 PM
Surr: BFB	103	70-130		%Rec	1	4/5/2019 10:54:37 PM

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1904171**

08-Apr-19

Client: Devon Energy

Project: Todd 26K Federal 10

Sample ID: **MB-44165**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **44165**	RunNo: **58920**							
Prep Date: **4/5/2019**	Analysis Date: **4/5/2019**	SeqNo: **1982078**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44165**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **44165**	RunNo: **58920**							
Prep Date: **4/5/2019**	Analysis Date: **4/5/2019**	SeqNo: **1982079**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.3	90	110			

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904171**
08-Apr-19

Client: Devon Energy
Project: Todd 26K Federal 10

Sample ID: **LCS-44126** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44126** RunNo: **58882**
Prep Date: **4/4/2019** Analysis Date: **4/4/2019** SeqNo: **1980513** 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	99.6	63.9	124			
Surr: DNOP	4.4		5.000		88.3	70	130			

Sample ID: **MB-44126** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44126** RunNo: **58882**
Prep Date: **4/4/2019** Analysis Date: **4/4/2019** SeqNo: **1980514** 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	9.1		10.00		91.4	70	130			

Sample ID: **1904171-006AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SS19-05 (0)** Batch ID: **44126** RunNo: **58882**
Prep Date: **4/4/2019** Analysis Date: **4/4/2019** SeqNo: **1980521** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	100	9.5	47.48	60.31	94.1	53.5	126			
Surr: DNOP	3.9		4.748		82.9	70	130			

Sample ID: **1904171-006AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SS19-05 (0)** Batch ID: **44126** RunNo: **58882**
Prep Date: **4/4/2019** Analysis Date: **4/4/2019** SeqNo: **1980522** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	100	9.2	45.91	60.31	85.8	53.5	126	5.18	21.7	
Surr: DNOP	4.2		4.591		91.3	70	130	0	0	

Sample ID: **LCS-44142** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44142** RunNo: **58917**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1981087** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		87.5	70	130			

Sample ID: **MB-44142** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44142** RunNo: **58917**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1981088** Units: **%Rec**

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

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1904171**

08-Apr-19

Client: Devon Energy

Project: Todd 26K Federal 10

Sample ID: **MB-44142** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44142** RunNo: **58917**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1981088** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	70	130			

Sample ID: **LCS-44128** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44128** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982023** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		86.1	70	130			

Sample ID: **MB-44128** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44128** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982024** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.1	70	130			

Sample ID: **LCS-44110** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44110** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1983117** 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	63.9	124			
Surr: DNOP	4.4		5.000		88.3	70	130			

Sample ID: **MB-44110** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44110** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1983118** 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	9.1		10.00		90.9	70	130			

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1904171**

08-Apr-19

Client: Devon Energy

Project: Todd 26K Federal 10

Sample ID: **LCS-44087**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **44087**	RunNo: **58948**
Prep Date: **4/3/2019**	Analysis Date: **4/5/2019**	SeqNo: **1982477** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.4	80.1	123			
Surr: BFB	1100		1000		112	73.8	119			

Sample ID: **MB-44087**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **44087**	RunNo: **58948**
Prep Date: **4/3/2019**	Analysis Date: **4/6/2019**	SeqNo: **1982479** 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	940		1000		94.1	73.8	119			

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1904171**

08-Apr-19

Client: Devon Energy

Project: Todd 26K Federal 10

Sample ID: **LCS-44087**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **44087**	RunNo: **58948**
Prep Date: **4/3/2019**	Analysis Date: **4/6/2019**	SeqNo: **1982525** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.0	80	120			
Toluene	0.97	0.050	1.000	0	97.1	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.8	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.0	80	120			

Sample ID: **MB-44087**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **44087**	RunNo: **58948**
Prep Date: **4/3/2019**	Analysis Date: **4/6/2019**	SeqNo: **1982527** 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	0.96		1.000		95.9	80	120			

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904171**
08-Apr-19

Client: Devon Energy
Project: Todd 26K Federal 10

Sample ID: **1904171-007ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **SS19-06 (0)** Batch ID: **44098** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982746** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.024	0.9533	0	83.2	68.9	131			
Toluene	0.99	0.048	0.9533	0.008780	102	64.3	137			
Ethylbenzene	1.0	0.048	0.9533	0	105	70	130			
Xylenes, Total	3.0	0.095	2.860	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.4766		85.5	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.4766		101	70	130			
Surr: Dibromofluoromethane	0.43		0.4766		91.1	70	130			
Surr: Toluene-d8	0.45		0.4766		93.5	70	130			

Sample ID: **1904171-007amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **SS19-06 (0)** Batch ID: **44098** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982747** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.024	0.9671	0	82.7	68.9	131	0.787	20	
Toluene	0.99	0.048	0.9671	0.008780	101	64.3	137	0.290	20	
Ethylbenzene	1.0	0.048	0.9671	0	103	70	130	0.294	0	
Xylenes, Total	3.0	0.097	2.901	0	105	70	130	0.721	0	
Surr: 1,2-Dichloroethane-d4	0.43		0.4836		89.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4836		102	70	130	0	0	
Surr: Dibromofluoromethane	0.45		0.4836		93.9	70	130	0	0	
Surr: Toluene-d8	0.45		0.4836		93.2	70	130	0	0	

Sample ID: **lcs-44098** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **44098** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982755** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.75	0.025	1.000	0	75.1	70	130			
Toluene	0.95	0.050	1.000	0	94.6	70	130			
Ethylbenzene	0.95	0.050	1.000	0	95.5	70	130			
Xylenes, Total	2.9	0.10	3.000	0	95.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		88.2	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.44		0.5000		88.1	70	130			
Surr: Toluene-d8	0.47		0.5000		95.0	70	130			

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904171**
08-Apr-19

Client: Devon Energy
Project: Todd 26K Federal 10

Sample ID: **mb-44098** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **44098** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982756** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		90.5	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		89.8	70	130			
Surr: Toluene-d8	0.46		0.5000		93.0	70	130			

Sample ID: **lcs-44111** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **44111** RunNo: **58962**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1983547** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		86.5	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.44		0.5000		89.0	70	130			
Surr: Toluene-d8	0.47		0.5000		94.0	70	130			

Sample ID: **mb-44111** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **44111** RunNo: **58962**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1983548** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		85.3	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.43		0.5000		86.9	70	130			
Surr: Toluene-d8	0.47		0.5000		93.3	70	130			

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1904171**

08-Apr-19

Client: Devon Energy

Project: Todd 26K Federal 10

Sample ID: **1904171-006ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **SS19-05 (0)** Batch ID: **44098** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982758** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.7	23.70	0	91.1	68.2	135			
Surr: BFB	480		473.9		100	70	130			

Sample ID: **1904171-006amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **SS19-05 (0)** Batch ID: **44098** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982759** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.6	23.21	0	92.8	68.2	135	0.193	20	
Surr: BFB	470		464.3		102	70	130	0	0	

Sample ID: **lcs-44098** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **44098** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982789** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.5	70	130			
Surr: BFB	500		500.0		100	70	130			

Sample ID: **lcs-44111** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **44111** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1982790** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	510		500.0		103	70	130			

Sample ID: **mb-44111** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **44111** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1982791** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	520		500.0		105	70	130			

Sample ID: **mb-44098** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **44098** RunNo: **58934**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982792** 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	500		500.0		99.8	70	130			

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

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: **1904171** RcptNo: **1**

Received By: **Yazmine Garduno** **4/3/2019 8:50:00 AM** Yazmine Garduno

Completed By: **Isaiah Ortiz** **4/3/2019 10:26:11 AM** I-OA

Reviewed By: DAD 4/3/19
CB: YG 4/3/19

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. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: YG 4/3/19

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	2.1	Good	Yes			
2	2.8	Good	Yes			
3	5.6	Good	Yes			

Chain-of-Custody Record

Client: Devon Energy / Amanda Davis

Mailing Address: 6488 Seven Rivers Highway, Artesia, NM 88210

Phone #: 575-748-0176 505-350-1336

email or Fax#: permian@Vertex.ca, amanda.davis@dvn.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: 5 day Turn
☒ Standard ☐ Rush _____

Project Name: Todd 26K Federal 10

Project #: 19E-00575

Project Manager: Dennis Williams

Sampler: Robyn Fisher

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1°C, 2.4°C, 5.1°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 Request ID	Container Type and #	Preservative Type	HEAL No. 1904171	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (EPA 300.0)				Air Bubbles (Y or N)
02/04/19	13:52	Soil	SS19-01 (0')	Glass/1	Ice	-001	X		X									X				
	13:57	Soil	SS19-01 (1')	Glass/1	Ice	-002	X		X									X				
	13:41	Soil	SS19-02 (0')	Glass/1	Ice	-003	X		X									X				
	13:31	Soil	SS19-03 (0')	Glass/1	Ice	-004	X		X									X				
	14:08	Soil	SS19-04 (0')	Glass/1	Ice	-005	X		X									X				
	14:11	Soil	SS19-05 (0')	Glass/1	Ice	-006	X		X									X				
	14:20	Soil	SS19-06 (0')	Glass/1	Ice	-007	X		X									X				
	14:42	Soil	SS19-07 (0')	Glass/1	Ice	-008	X		X									X				
	14:25	Soil	SS19-08 (0')	Glass/1	Ice	-009	X		X									X				
	14:03	Soil	SS19-09 (0')	Glass/1	Ice	-010	X		X									X				
	13:46	Soil	SS19-10 (0')	Glass/1	Ice	-011	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
02/04/19	3:41	Robyn Fisher			
4/2/19	1900			4/02/19	1545

Date:	Time:	Relinquished by:	Received by:	Date	Time
			Yvette courier	4/3/19	8:30

Remarks:

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.