May 28, 2020 Vertex Project #: 20E-00141-042

Spill Closure Report: Cotton Draw Unit #205H
Unit O, Section 26, Township 24 South, Range 31 East
County: Eddy
Tracking Number: NRM2007031081

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

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

Devon Energy Production Company (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a spill assessment and remediation for the brine water and natural gas release that occurred at Cotton Draw Unit #205H (hereafter referred to as "Cotton Draw 205") on February 24, 2020. Devon provided verbal notification of the incident to New Mexico Oil Conservation Division (NM OCD) District 2 and the Bureau of Land Management (BLM), who owns the property, on February 24, 2020, and followed up with an initial C-141 Release Notification on March 9, 2020 (Attachment 1). The NM OCD tracking number assigned to this incident is NRM2007031081.

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

Incident Description

On February 24, 2020, a release occurred at Cotton Draw 205 when the well pressured up during removal of the B1 adaptor for swapping over to the blowout preventer (BOP). At the time, all personnel on-site were evacuated and the location was secured with no entry permitted for safety reasons during situation assessment. The well plugged itself within 40 hours and was fully controlled on February 27, 2020, with the BOP. This incident resulted in the release of approximately 30 barrels (bbls) of brine water, which had initially been used to kill the well prior to the work being performed, and an estimated volume of 1,458 thousand cubic feet (mcf) of natural gas. During well control, a pit and trench were dug in order to contain any possible fluids that could arise. The brine water was contained on the wellpad and within this pit and trench, which extended southward from the wellpad, as shown on Figure 1 (Attachment 2). No produced water was released into undisturbed areas or waterways.

Site Characterization

The release at Cotton Draw 205 occurred on federally-owned land, N 32.1814537, W 103.7447433, approximately 19 miles east of Malaga, New Mexico. The legal description for the site is Unit O, Section 26, Township 24 South,

Range 31 East, Eddy County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and rangeland. An aerial photograph and site schematics are included in Attachment 2.

Cotton Draw 205 is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production, and storage. The following sections specifically describe the release area on the wellpad and the pasture area immediately south of the wellpad, between the Cotton Draw 205H site and the Cotton Draw Unit #125H wellpad.

The surrounding landscape is associated with fan piedmonts and plains typical of elevations between 2,000 and 5,700 feet above sea level. The climate is arid, with average annual precipitation ranging between 5 and 15 inches. Historically, the plant community has been dominated by grasses, with scattered shinnery oak and sand sage, and perennial and annual forb abundance dependent on precipitation (United States Department of Agriculture, Natural Resources Conservation Service, 2020). Limited to no vegetation is allowed to grow on the compacted wellpads.

The Geological Map of New Mexico indicates the surface geology at Cotton Draw 205 is comprised of Qep – Eolian and piedmont deposits that include eolian sands interlayed with piedmont-slope deposits (New Mexico Bureau of Geology and Mineral Resources, 2020). The Natural Resources Conservation Service *Web Soil Survey* characterizes the soil at the site as Berino complex; characterized by fine sand over a deep layer of sandy clay loam. It tends to be well-drained with low runoff and moderate available water storage in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is low potential for karst geology to be present near Cotton Draw 205, though there is some potential for erosional pseudokarst east of the site (United States Department of the Interior, United States Geological Survey, 2020a).

There is no surface water located on-site. A man-made stock pond is located approximately 0.5 miles to the east of Cotton Draw 205 and the nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 5 miles northwest of the site (United States Fish and Wildlife Service, 2020). There are no continuously flowing watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features at Cotton Draw 205, as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest recent well to the release at Cotton Draw 205 is a United States Geological Survey-identified well from 1998, located approximately 1.2 miles south of the site. The depth at this well is recorded as 406 feet below ground surface (bgs; United States Department of the Interior, United States Geological Survey, 2020b). The most recent New Mexico Office of the State Engineer (NM OSE)-identified well in the vicinity is located approximately 1.8 miles north of the site, with a depth to groundwater of 868 feet bgs (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2020). The Chevron Texaco *Depth to Ground Water Map* for Eddy County confirms that depth to groundwater in the vicinity of Cotton Draw 205 is approximately 400 feet bgs (Chevron Texaco, 2005). Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

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

19.15.29.12 NMAC.

Based on data included in the closure criteria determination worksheet, the release at Cotton Draw 205 is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site are determined to be associated with the following constituent concentration limits based on depth to groundwater.

Table 1. Closure Criteria for Soils Impacted by a Release

Depth to Groundwater	Constituent	Limit
>100 feet	Chloride	20,000 mg/kg
	TPH[1] (GRO + DRO + MRO)	2,500 mg/kg
	GRO + DRO	1,000 mg/kg
	BTEX[2]	50 mg/kg
	Benzene	10 mg/kg

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

[2]Benzene, toluene, ethylbenzene and xylenes (BTEX)

Remedial Actions

Initial spill inspection and site characterization activities at Cotton Draw 205 were completed by Vertex on March 12 and 13, 2020. The Daily Field Report and field screening data associated with the site visit are included in Attachment 4. Using initial field screening and soil sample laboratory data as shown in Table 2 (Attachment 5), the release was delineated horizontally and vertically as presented on Figure 1 (Attachment 2), and a remediation work plan was developed. On April 16, 2020, Vertex provided 48-hour notification of confirmation sampling to NM OCD (Attachment 6), as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC.

Excavation of the contaminated soil was conducted between April 22 and 24, 2020, with a Vertex representative on-site to conduct field screening to guide the excavation and determine final horizontal and vertical extents of the excavation area as presented on Figure 2 (Attachment 2). As remediation activities were completed, Vertex collected a total of 67 five-point composite confirmatory samples from the base and side walls of the excavation, at depths ranging between ground surface and 8 feet bgs. Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NM OCD approval. The composite samples were placed into laboratory-provided containers, preserved on ice, and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sampling analytical data are summarized in Table 3 (Attachment 5). Laboratory data reports and chain of custody forms are included in Attachment 7.

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

Of the 67 confirmatory samples, one sample (BS20-11) failed to meet NM OCD closure criteria. Additional excavation was completed in the area of that sample location on May 11, 2020, and the confirmatory sample was re-collected. The final laboratory results for this sample point are shown in Table 3.

Closure Request

Vertex recommends no additional action to address the release at Cotton Draw 205. Laboratory analyses of the confirmatory samples showed constituent of concern concentration levels below NM OCD closure criteria for areas where depth to groundwater is greater than 100 feet bgs as presented in Table 1. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Remediation efforts for the portion of the release that occurred off-lease included excavation of contaminated materials to levels meeting NM OCD restoration and reclamation requirements as outlined in 19.15.29.13 NMAC. The excavation was backfilled with non-waste containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent ponding of water and erosion, and aid in the establishment of vegetation. Vertex requests that restoration and reclamation of the portion of the release on-pad commence at such time as the well is closed, production equipment is removed and the is site reclaimed per 19.15.29.13 NMAC regulations.

Vertex requests that this incident (NRM2007031081) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Devon certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NM OCD requirements to obtain closure on the February 24, 2020, release at Cotton Draw 205.

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

Sincerely,

Natalie Gordon
PROJECT MANAGER

Attachments

References

Chevron Texaco. (2005). *Eddy County Depth to Groundwater, Water Wells, Facilities.*

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

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

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

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

United States Department of the Interior, United States Geological Survey. (2020a). *Caves and Karst in the U.S. National Park Service*. Retrieved from https://www.arcgis.com/home/webmap/viewer.html?webmap=14675403c37948129acb758138f2dd1e

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

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

Limitations

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

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

ATTACHMENT 1

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	NRM2007031081
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NRM2007031081
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: Kendra DeHoyos Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Ramona Marcus Date: 3/10/2020

State of New Mexico
Oil Conservation Division

Incident ID	NRM2007031081
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	406 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NRM2007031081
District RP	
Facility ID	
Application ID	

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

Printed Name: Lupe Carrasco Title: Environmental Representative .

Signature: Lupe Carrasco Date: 6/1/20

email: lupe.carrasco@dvn.com . Telephone: 575-748-0176

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NRM2007031081
District RP	
Facility ID	
Application ID	

Closure

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

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

[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: Lupe Carrasco Title: Environmental Representive

Signature: Lupe Carrasco Date: 6/1/20

email: lupe.carrasco@dvn.com . Telephone: 575-748-0176 .

OCD Only

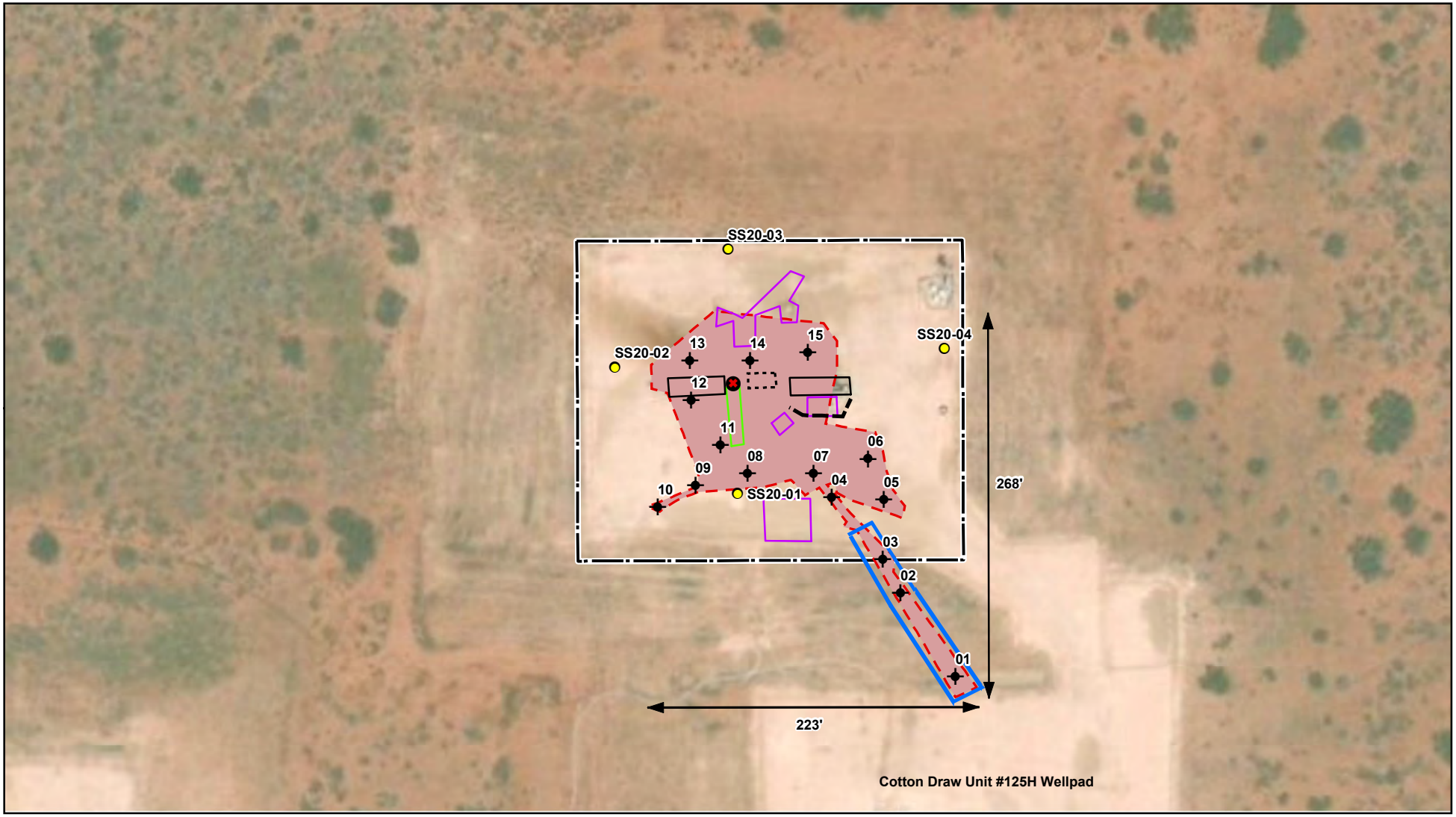
Received by: _____ Date: _____

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 2



Point of Release
Borehole (Label Prefix 'BH20-')
Surface Sample
Panels Around Pumpjack
Equipment
Pumpjack
Parts of Pumpjack
Pulling Unit
Spill Area (~16,760 sq.ft.)
Approximate Lease Boundary
Trench

VERTEX

0 20 40 80 ft

Map Center:
Lat/Long: 32.181454, -103.744743

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

N

Initial Site Characterization
Cotton Draw Unit #205H

FIGURE:
1

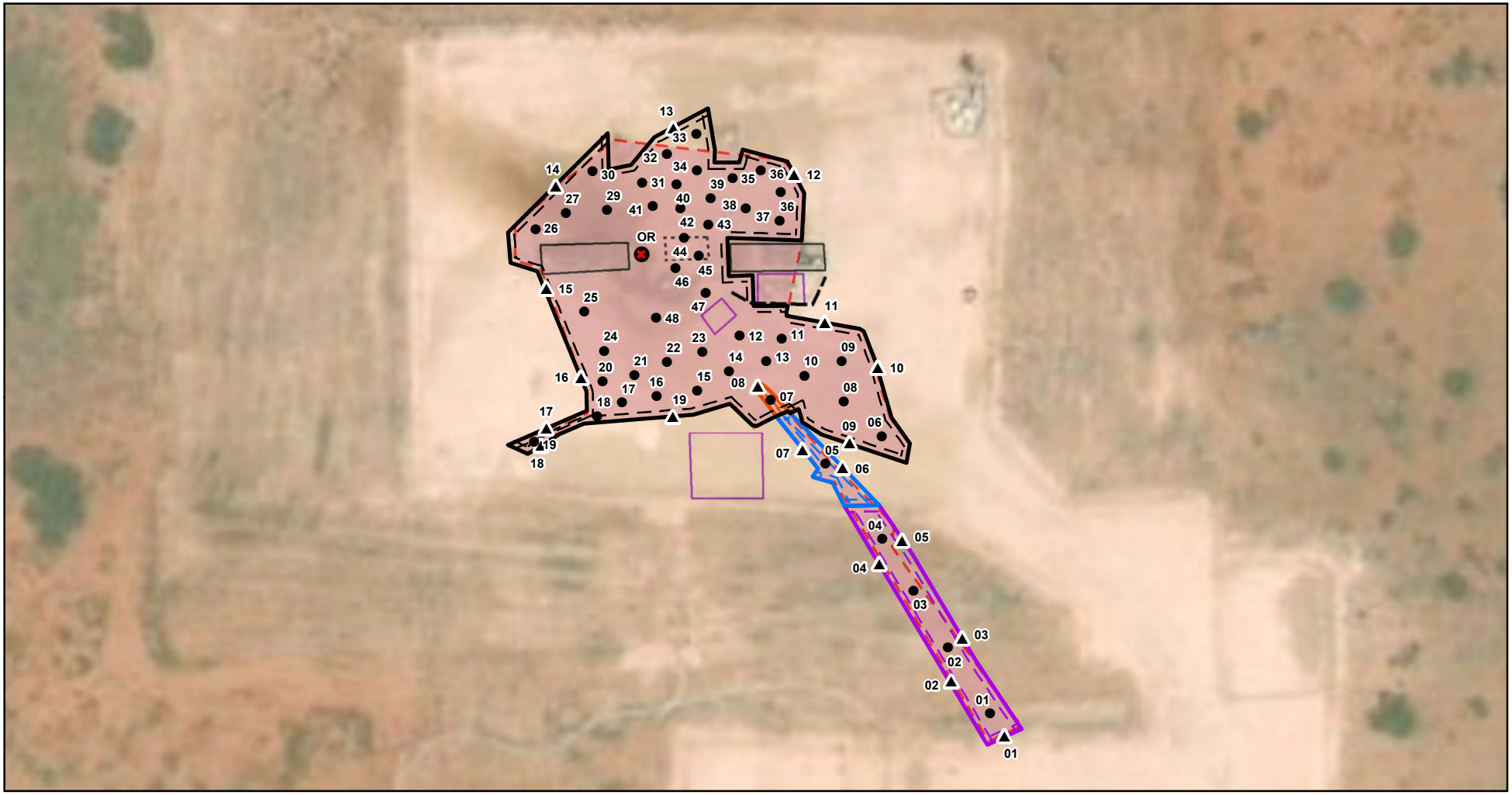
devon

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

Note: Background image from ESRI, 2018.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-00141\042 - Cotton Draw Unit 205H\Fig 1 Initial Characterization Cotton Draw Unit 205H.mxd



Point of Release

Base Sample (Excavated) - Prefixed by "BS20-"

Wall Sample (Excavated) - Prefixed by "WS20-"

Excavation area 0-0.5 ft

On pad trench excavation 0-3.5 ft

Pasture excavation 0-8 ft

Trench excavation 0-1 ft

Approximate Spill Area (~16,760 sq.ft.)

Equipment

Parts of Pumpjack

Pumpjack

VERTEX

0 12.5 25 50 ft

Map Center:
Lat/Long: 32.181322, -103.744568

NAD 1983 UTM Zone 13N
Date: Apr 30/20

N

Confirmatory Site Schematic
Cotton Draw Unit #205H

FIGURE:
2

devon

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

Note: Background image from ESRI, 2018.

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Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-001411\042 - Cotton Draw Unit 205H\Fig 2 Confirmatory Schematic Cotton Draw Unit 205H.mxd

ATTACHMENT 3

Table 1. Closure Criteria Determination			
Site Name: Cotton Draw Unit 205H			
Spill Coordinates: 32.1814537, -103.7447433		X: 618210.78	Y: 3557870.57
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**348**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	26363	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	2555	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	23947	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**	9272	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	10251	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)		Critical High Medium Low
10	Within a 100-year Floodplain	No	year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		>100'	<50' 51-100' >100'

National Flood Hazard Layer FIRMette

FEMA

32°11'8.62"N

103°44'59.65"W

103°44'22.19"W

32°10'38.18"N

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

1:6,000

Legend

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

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

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

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

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

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

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

N

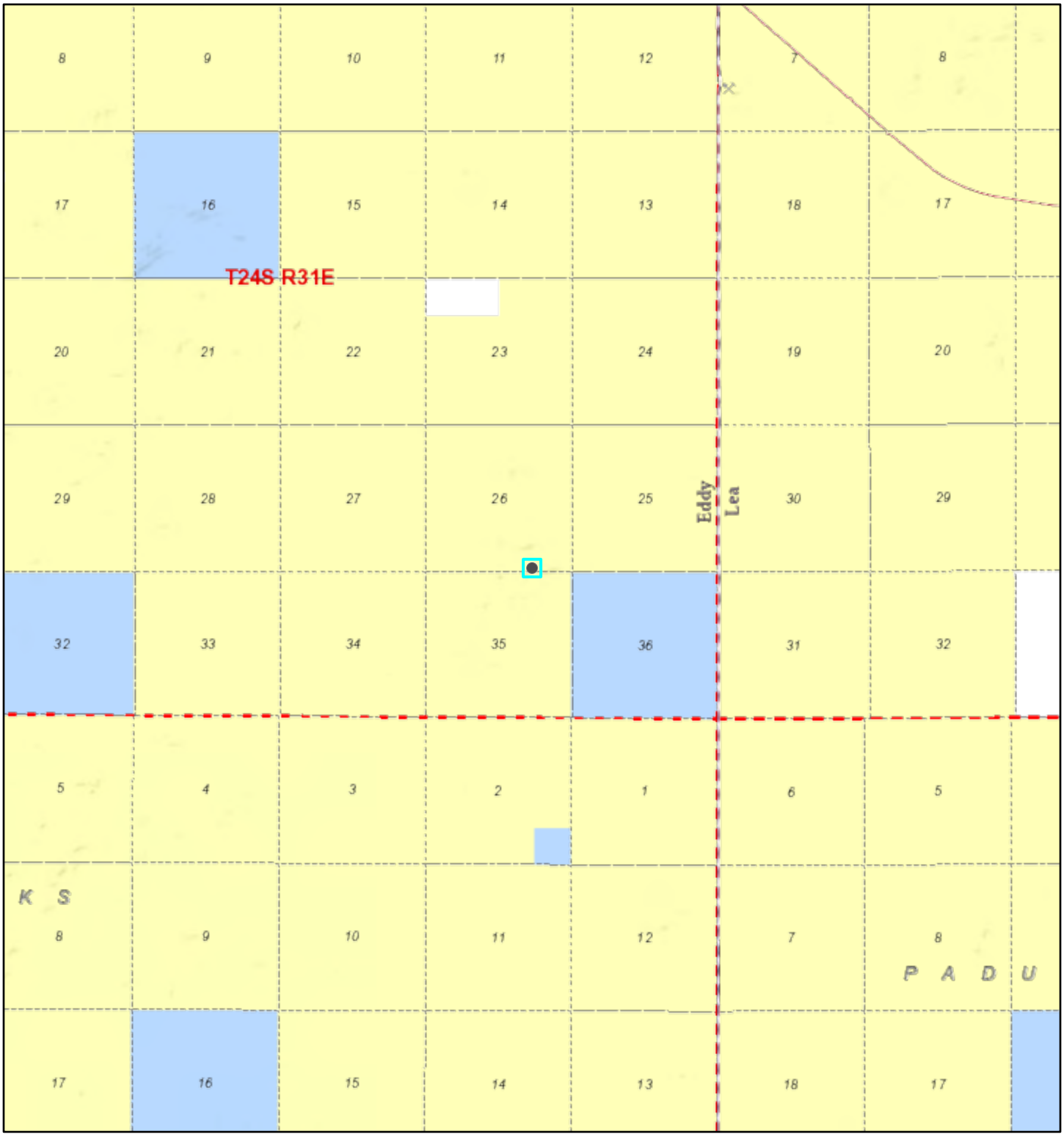
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/8/2020 at 3:17:43 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Active Mines near Cotton Draw Unit 205H



3/8/2020, 1:20:33 PM

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

Registered Mines

Aggregate, Stone etc.

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

Column1
Critical
High
Medium
Low

Column1
Yes
No

<50'
51-100'
>100'

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 03830 POD1	4	2	4	02	25S	31E	618632	3558432

Driller License: 1607 **Driller Company:** DURAN DRILLING

Driller Name: DURAN, LUIS A.

Drill Start Date: 01/28/2015 **Drill Finish Date:** 02/02/2015 **Plug Date:**

Log File Date: 02/23/2015 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 15 GPM

Casing Size: 7.00 **Depth Well:** 450 feet **Depth Water:**

Water Bearing Stratifications:	Top	Bottom	Description
	348	378	Sandstone/Gravel/Conglomerate
	384	448	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	220	450

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
NA	C 04209 POD1	2	3	3	06	26S	32E	620903	3548619

Driller License: 1706 **Driller Company:** ELITE DRILLERS CORPORATION

Driller Name: BRYCE WALLACE

Drill Start Date:	04/28/2018	**Drill Finish Date:**	05/01/2018	**Plug Date:**	
Log File Date:	05/21/2018	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	25 GPM
Casing Size:	6.00	**Depth Well:**	360 feet	**Depth Water:**	155 feet

Water Bearing Stratifications:	Top	Bottom	Description
	15	350	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	200	360

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
22333	C 04388 POD1	3	2	1	23	24S	31E	617546	3564006

Driller License: 1058 **Driller Company:** KEY'S DRILLING & PUMP SERVICE

Driller Name: KEY, GARYR.S AICHARDDENAS

Drill Start Date:	12/18/2019	**Drill Finish Date:**	02/22/2020	**Plug Date:**	
Log File Date:	02/27/2020	**PCW Rcv Date:**		**Source:**	Artesian
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	60 GPM
Casing Size:	4.50	**Depth Well:**	910 feet	**Depth Water:**	868 feet

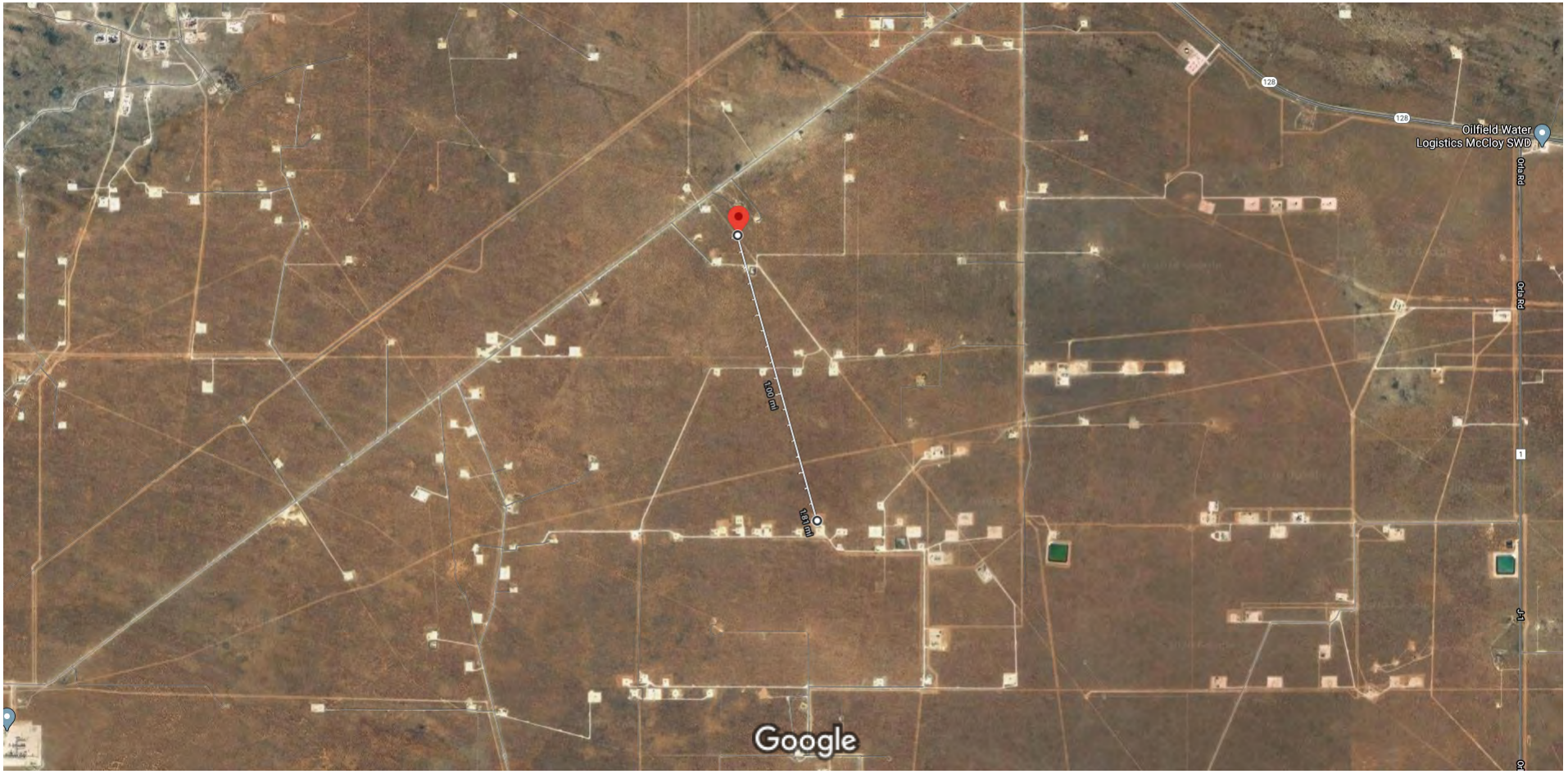
Water Bearing Stratifications:	Top	Bottom	Description
	866	868	Limestone/Dolomite/Chalk

Casing Perforations:	Top	Bottom
	850	910

Google Maps

32°12'23.4"N 103°45'10.0"W

NM OSE 2020 Well - 868 ft bgs



Imagery ©2020 CNES / Airbus, Landsat / Copernicus, Maxar Technologies, NMRGIS, USDA Farm Service Agency, Map data ©2020 2000 ft

Measure distance
Total distance: 1.81 mi (2.92 km)

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 02574	CUB	COM	12	BUREAU OF LAND MANAGEMENT	ED	C 02574				Shallow	1 1 2	02	25S	31E	618092	3559494*	1767
C 02571	CUB	COM	3	BUREAU OF LAND MANAGEMENT	ED	C 02571				Shallow	4 1 2	02	25S	31E	618292	3559294*	1950
C 02572	CUB	COM	3	BUREAU OF LAND MANAGEMENT	ED	C 02572					4 2 2	02	25S	31E	618695	3559294*	1982
C 02573	CUB	COM	3	OXY USA INC	ED	C 02573					1 4 2	02	25S	31E	618499	3559091*	2159
C 02569	CUB	COM	12	BUREAU OF LAND MANAGEMENT	ED	C 02569				Shallow	4 4 2	02	25S	31E	618699	3558891*	2380
C 02568	CUB	COM	3	OXY USA INC	ED	C 02568					4 3 1	01	25S	31E	619103	3558892*	2473
C 02570	CUB	COM	3	BUREAU OF LAND MANAGEMENT	ED	C 02570					4 2 4	02	25S	31E	618704	3558489*	2779
C 03830	CUB	EXP	0	ROCKHOUSE RANCH INC	ED	C 03830 POD1			NON	Shallow	4 2 4	02	25S	31E	618632	3558432	2826
C 04388	C	DOM	1	TWIN WELLS RANCH LLC	ED	C 04388 POD1	22333			Artesian	3 2 1	23	24S	31E	617546	3564006	2873
C 02020	C	STK	3	BUREAU OF LAND MANAGEMENT	ED	C 02020					4 4	28	24S	31E	615360	3561356*	2981
C 02959	C	STK	3	RICHARDSON CATTLE COMPANY	ED	C 02959					1 3 2	33	24S	31E	614866	3560646*	3524
C 02245	C	STK	3	JR ENGINEERING & CONST. CO.	ED	C 02245					1 1	12	25S	31E	619018	3557785*	3525
C 02021	C	STK	3	BUREAU OF LAND MANAGEMENT	ED	C 02021					1 2	28	24S	31E	614944	3562559*	3641
C 01914	C	PRO	0	PERRY R BASS	ED	C 01914					4 1 2	04	25S	31E	615064	3559275*	3822

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

Record Count: 14

UTMNAD83 Radius Search (in meters):

Easting (X): 618339.75 **Northing (Y):** 3561244.4 **Radius:** 5000

Sorted by: Distance

U.S. Fish and Wildlife Service
National Wetlands Inventory

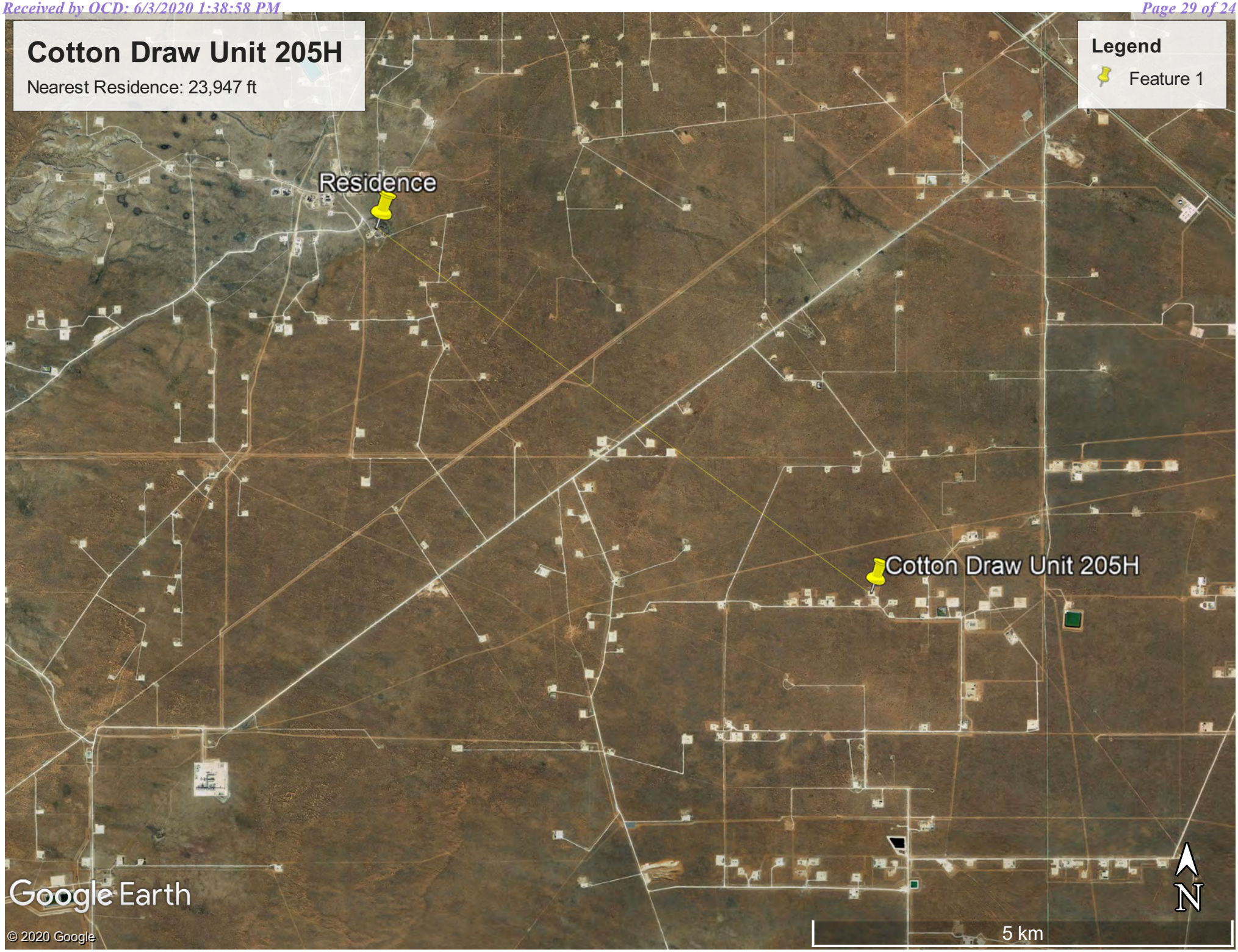
Cotton Draw Unit 205H: Pond 2,555 ft

March 8, 2020

Wetlands

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

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


Cotton Draw Unit 205H
Nearest Residence: 23,947 ft
Legend
Feature 1
Residence
Cotton Draw Unit 205H
Google Earth
© 2020 Google
N
5 km

Soil Map—Eddy Area, New Mexico
(Cotton Draw Unit 205H)

Soil Map—Eddy Area, New Mexico
(Cotton Draw Unit 205H)

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

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

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BB	Berino complex, 0 to 3 percent slopes, eroded	1.4	100.0%
Totals for Area of Interest		**1.4**	**100.0%**

Eddy Area, New Mexico

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

Map Unit Setting

National map unit symbol: 1w43
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 5 to 15 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Berino and similar soils: 60 percent
Pajarito and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berino

Setting

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

Typical profile

H1 - 0 to 17 inches: fine sand
H2 - 17 to 58 inches: sandy clay loam
H3 - 58 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Salinity, maximum in profile: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e

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

Description of Pajarito

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Cacique

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

Wink

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

Pajarito

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

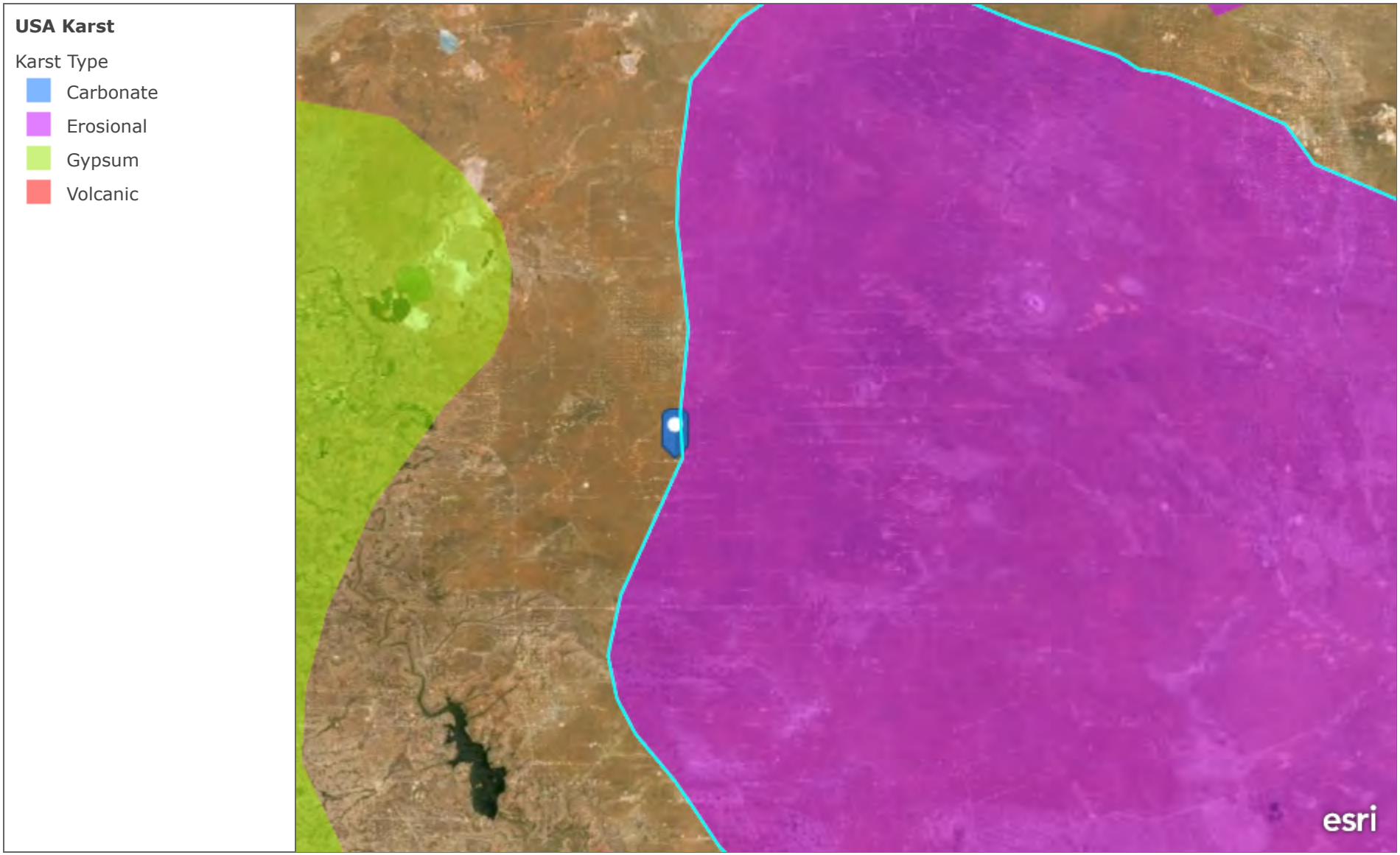
Kermit

Percent of map unit: 3 percent
Ecological site: Deep Sand (R042XC005NM)
Hydric soil rating: No

Data Source Information

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

USA Karst

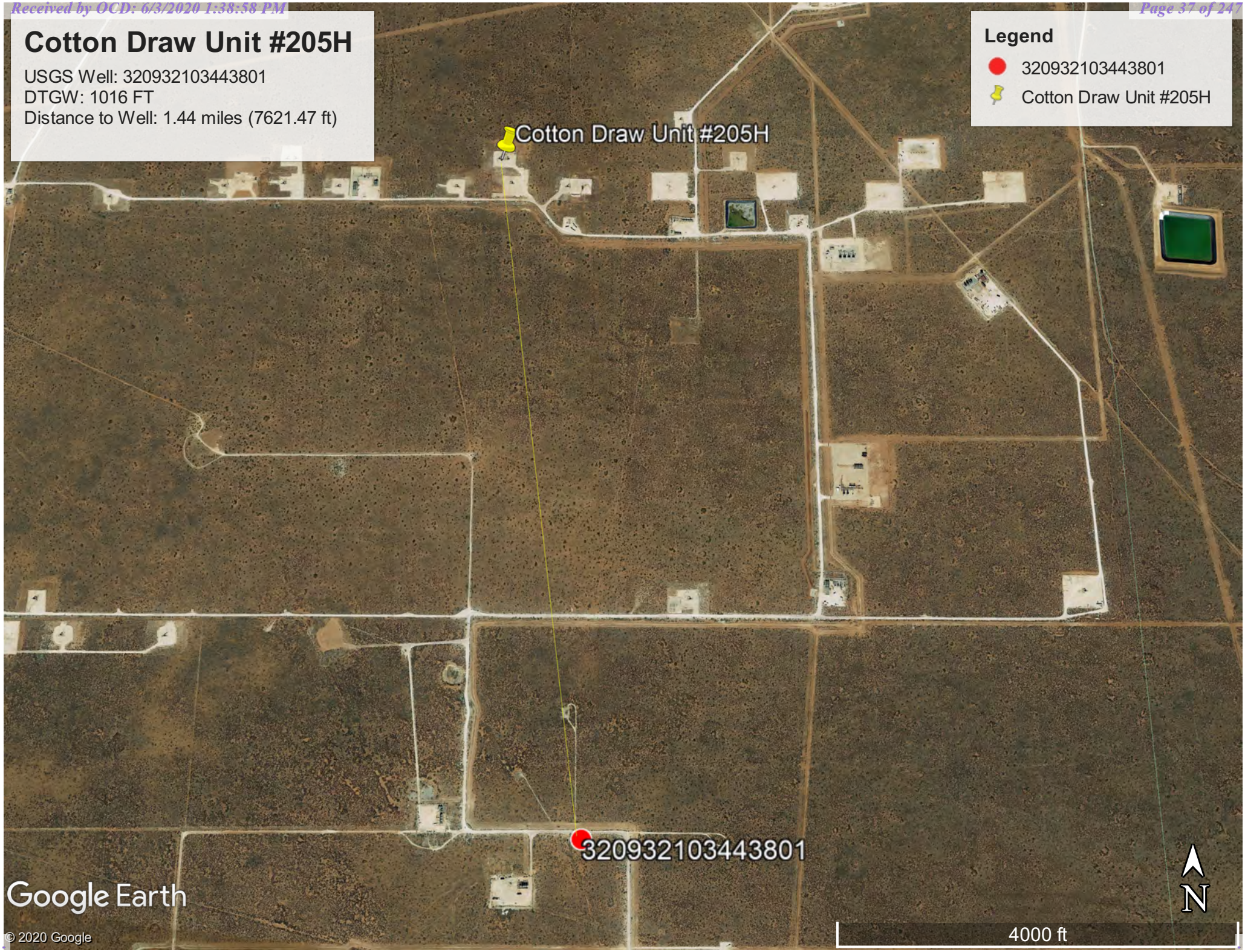


A map showing karst areas in the United States based on the U.S. Geological Survey Open-File Report 2004-1352

U.S. Geological Survey Open-File Report 2004-1352, Caves and Karst in the U.S. National Park Service, AGI Karst Map of the US. | Earthstar Geographics

Cotton Draw Unit #205H

USGS Well: 320932103443801
DTGW: 1016 FT
Distance to Well: 1.44 miles (7621.47 ft)



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 Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02574	CUB	ED	1	1	2	02	25S	31E	618092	3559494*	1767			
C 02571	CUB	ED	4	1	2	02	25S	31E	618292	3559294*	1950	860		
C 02572	CUB	ED	4	2	2	02	25S	31E	618695	3559294*	1982	852		
C 02573	CUB	ED	1	4	2	02	25S	31E	618499	3559091*	2159			
C 02569	CUB	ED	4	4	2	02	25S	31E	618699	3558891*	2380	1016		
C 02568	CUB	ED	4	3	1	01	25S	31E	619103	3558892*	2473	1025		
C 02570	CUB	ED	4	2	4	02	25S	31E	618704	3558489*	2779	895		
C 03830 POD1	CUB	ED	4	2	4	02	25S	31E	618632	3558432	2826	450		
C 04388 POD1	C	ED	3	2	1	23	24S	31E	617546	3564006	2873	910	868	42

Average Depth to Water: **868 feet**

Minimum Depth: **868 feet**

Maximum Depth: **868 feet**

Record Count: 9

UTMNAD83 Radius Search (in meters):

Easting (X): 618339.75 **Northing (Y):** 3561244.4 **Radius:** 5000

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Cotton Draw 205H: Watercourse 26,363 ft

March 8, 2020

Wetlands

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

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New Mexico Office of the State Engineer

Wells with Well Log Information

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD Sub-basin Code	County	Source	q 6416	q 4	q	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
C 03830 POD1	CUB	ED	Shallow	4	2	4	02	25S	31E	618632	3558432	2826	01/28/2015	02/02/2015	02/23/2015	450		DURAN, LUIS A.	1607
C 04388 POD1	C	ED	Artesian	3	2	1	23	24S	31E	617546	3564006	2873	12/18/2019	02/22/2020	02/27/2020	910	868	KEY, GARYR.S A ICHARDDENAS	1058

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 618339.75 **Northing (Y):** 3561244.4 **Radius:** 5000

U.S. Fish and Wildlife Service
National Wetlands Inventory

Cotton Draw 205H: Wetland 10,251 ft

March 8, 2020

Wetlands

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

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ATTACHMENT 4

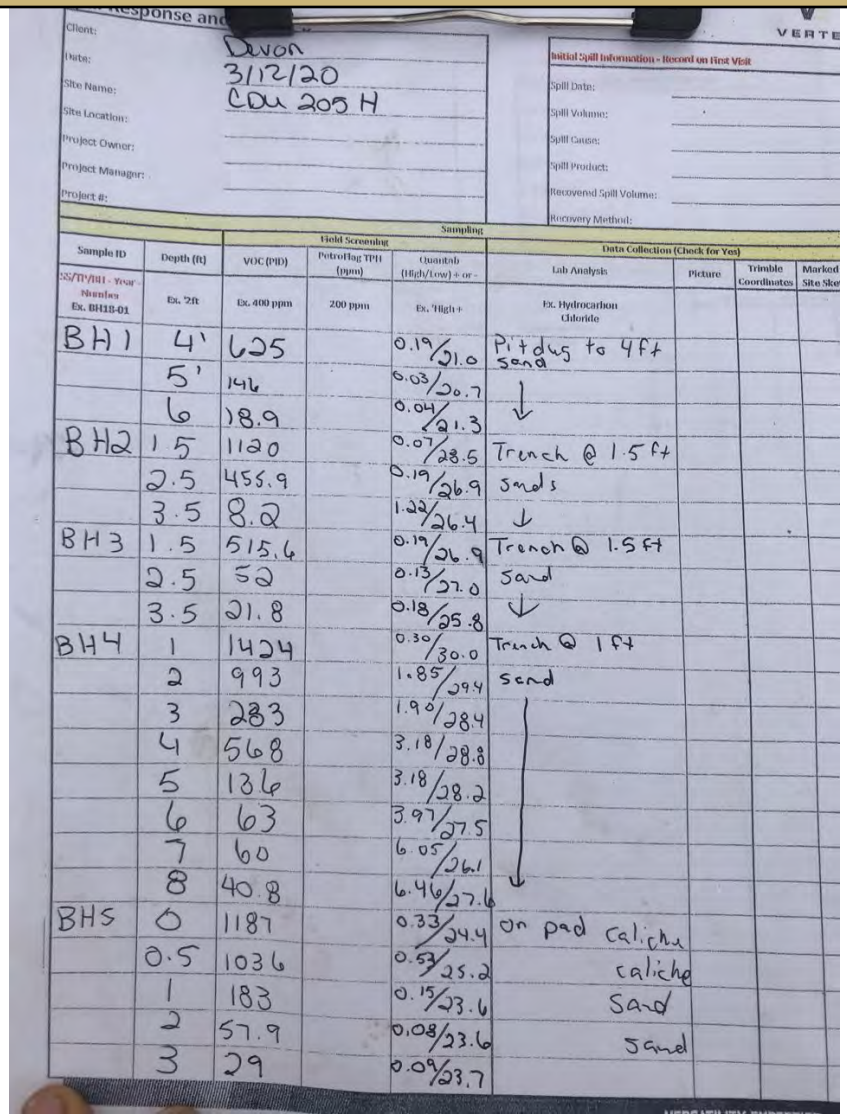
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/12/2020
Site Location Name:	Cotton Draw Unit #205H	Report Run Date:	3/12/2020 11:18 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-015-42071
Client Contact Name:	Amanda Davis	Reference	BOP Spill
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	3/12/2020 7:00 AM
Arrived at Site	3/12/2020 8:30 AM
Departed Site	
Returned to Office	

Daily Site Visit Report

Site Sketch

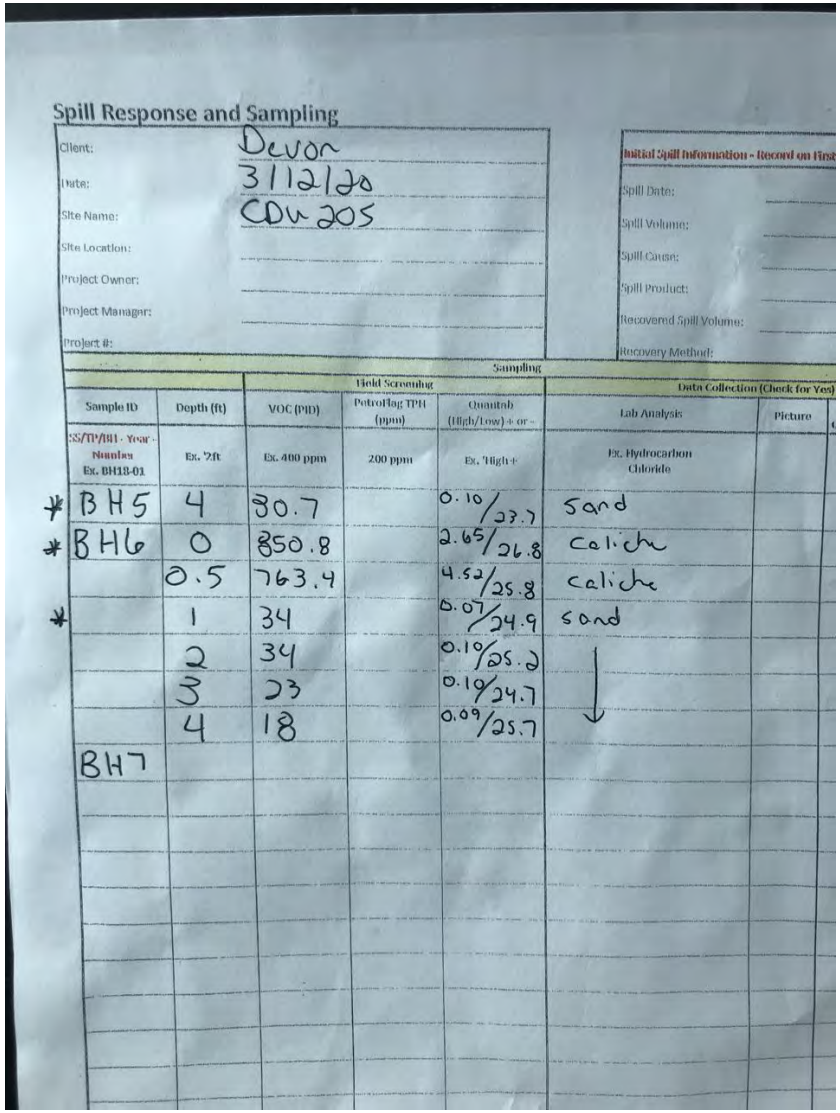


Client: Devon
Date: 3/12/20
Site Name: CDU 205 H
Site Location:
Project Owner:
Project Manager:
Project #:

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

Sample ID	Depth (ft)	Field Screening: VOC (PID)	Field Screening: PetroFlag TPH (ppm)	Field Screening: Quantab (High/Low) + or -	Data Collection: Lab Analysis	Data Collection: Picture	Data Collection: Trimble Coordinates	Data Collection: Marked Site Sketch
SS/TP/BH - Year - Number Ex. BH18-01	Ex. 2ft	Ex. 400 ppm	200 ppm	Ex. High +	Ex. Hydrocarbon Chloride			
BH1	4'	625		0.19/21.0	Pit dug to 4ft sand			
	5'	146		0.03/20.7	↓			
	6	18.9		0.04/21.3	↓			
BH2	1.5	1120		0.07/28.5	Trench @ 1.5 ft			
	2.5	455.9		0.19/26.9	sands			
	3.5	8.2		1.22/26.4	↓			
BH3	1.5	515.6		0.19/26.9	Trench @ 1.5 ft			
	2.5	52		0.13/27.0	sand			
	3.5	21.8		0.18/25.8	↓			
BH4	1	1424		0.30/30.0	Trench @ 1 ft			
	2	993		1.85/29.4	sand			
	3	283		1.90/28.4	↓			
	4	568		3.18/28.8	↓			
	5	136		3.18/28.2	↓			
	6	63		3.97/27.5	↓			
	7	60		6.05/26.1	↓			
	8	40.8		6.46/27.6	↓			
BH5	0	1187		0.33/24.4	on pad caliche			
	0.5	1036		0.53/25.2	caliche			
	1	183		0.15/23.6	Sand			
	2	57.9		0.08/23.6	sand			
	3	29		0.09/23.7				

Daily Site Visit Report



Spill Response and Sampling

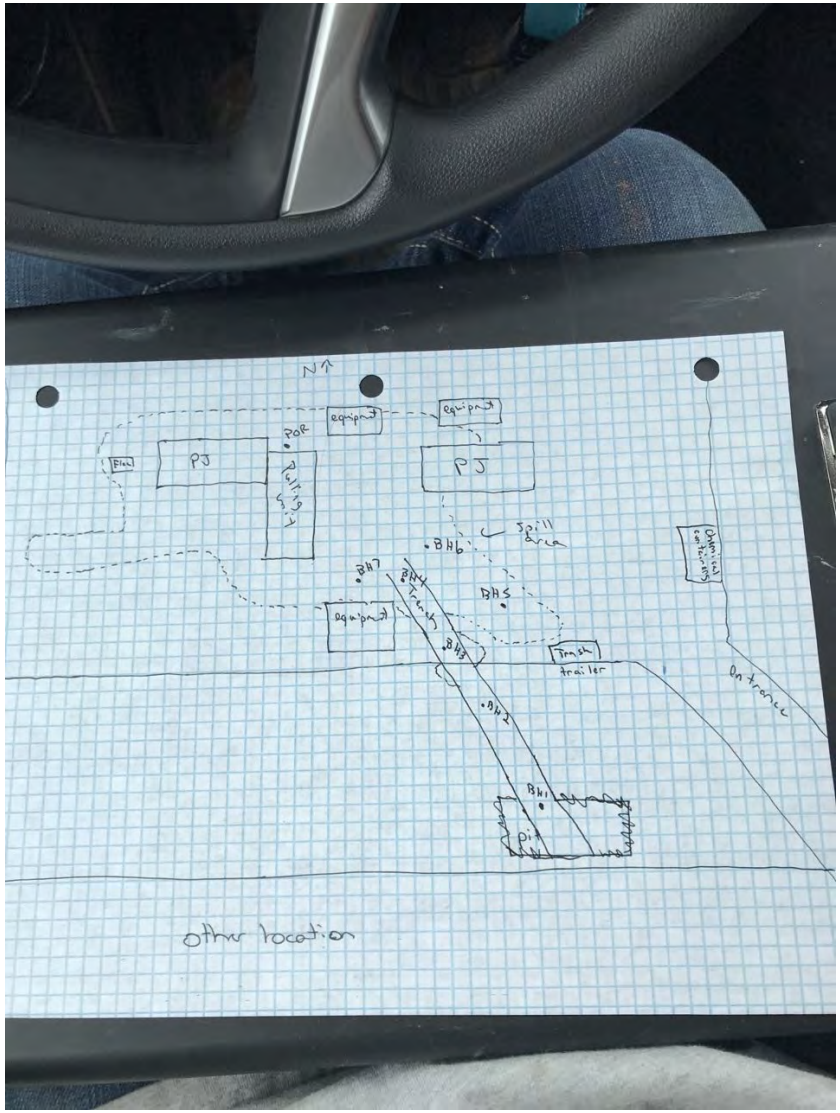
Client: Devon
Date: 3/12/20
Site Name: CDU 205
Site Location:
Project Owner:
Project Manager:
Project #:

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

Sampling

	Sample ID (SS/TP/BH - Year - Number Ex. BH18-01)	Depth (ft) Ex. 2ft	Field Screening: VOC (PID) Ex. 400 ppm	Field Screening: PetroFlag TPH (ppm) 200 ppm	Field Screening: Quantab (High/Low) + or - Ex. High +	Data Collection (Check for Yes): Lab Analysis Ex. Hydrocarbon Chloride	Data Collection (Check for Yes): Picture
*	BH5	4	80.7		0.10/23.7	sand	
*	BH6	0	850.8		2.65/26.8	caliche	
		0.5	763.4		4.52/25.8	caliche	
*		1	34		0.07/24.9	sand	
		2	34		0.19/25.2	↓	
		3	23		0.19/24.7		
		4	18		0.09/25.7		
	BH7						

Daily Site Visit Report



Daily Site Visit Report

Summary of Daily Operations

10:36 Pulling unit on site with crew, walked around site noticed pulling unit parked on top of part of the spill area, trench and pit are unlined like stated they were, all staining is very apparent and heavily darkened

10:37 Put dug down to 4 ft started sampling at 4 ft and went down from there. Started sampling on south side of wellhead and working my way to north end. North side of wellhead seems to have a lot of overspray/spillage as well, well is starting back up on production and has been burping fluid and gas.

14:05 Chose certain areas to sample due to discoloration in soil and where it looked like fluids may have settled in trench. Samples not super high in chlorides but a lot higher hits with pid. Seems to be cleaning up around 2 ft on samples collected on pad

15:03 Completed six sample points, ran field screens with pid and ec meter, packed samples and coc, need to continue delineation for the rest of spill footprint, starting to get very windy and starting to sprinkle with dark clouds, with all of the heavy traffic in and out on location and driving through spill area, horizontal delineation does not seem suffice until pulling unit and crews working are complete.

Next Steps & Recommendations

1. Send collected samples to lab
2. Continue delineation for rest of spill area

Daily Site Visit Report

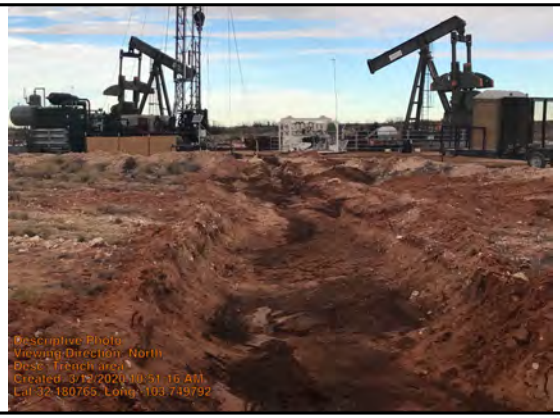
Site Photos

Viewing Direction: South	**Viewing Direction**: Southwest
	
Spill area around wellhead	Spill area around wellhead and pulling unit
Viewing Direction: East	**Viewing Direction**: Northeast
	
Spill area around wellhead and pulling unit	Spill area around wellhead

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: Northwest
	
Spill area near pulling unit	Spill area and staining
Viewing Direction: West	**Viewing Direction**: West
	
Staining and spill area	Spill area

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: South
	
Trench and pit area	Trench and pit area

Viewing Direction: North	**Viewing Direction**: Northeast
	
Trench and pit area	Spill area

Daily Site Visit Report

Viewing Direction: South

Oil sitting in trench that is still on location

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

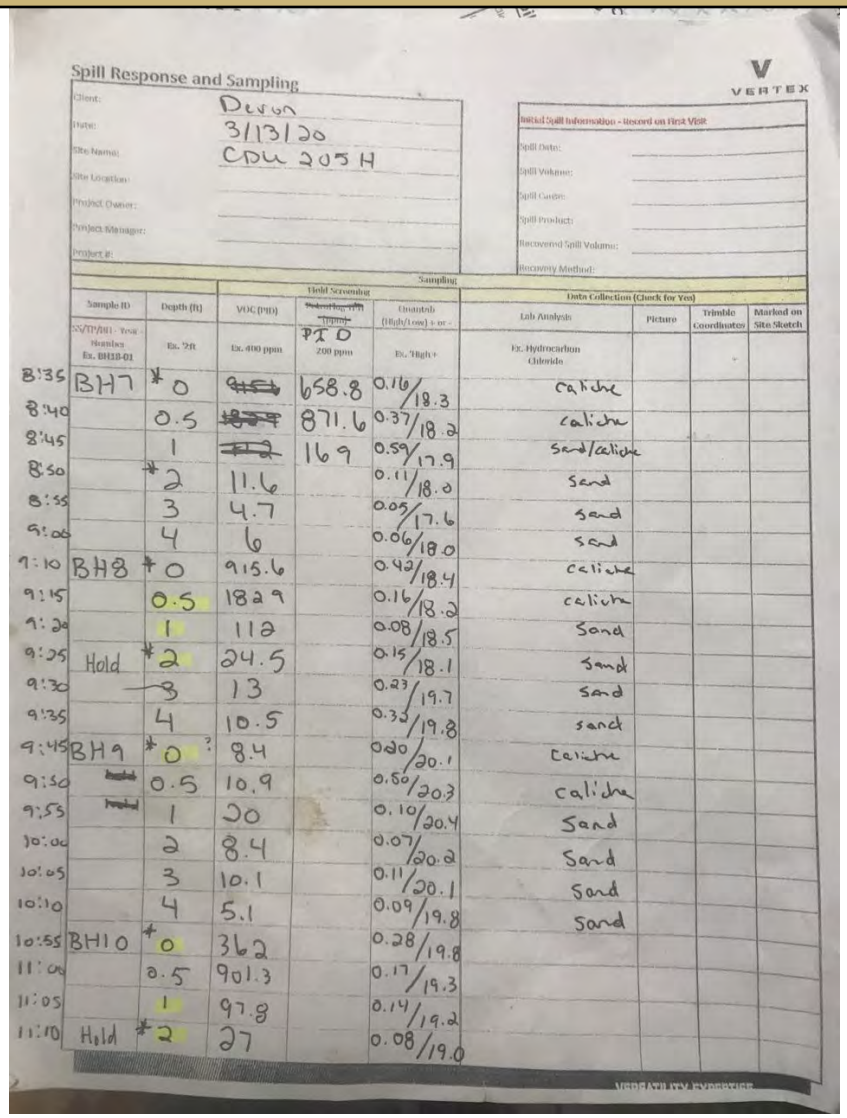
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/13/2020
Site Location Name:	Cotton Draw Unit #205H	Report Run Date:	3/14/2020 12:36 AM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-015-42071
Client Contact Name:	Amanda Davis	Reference	BOP Spill
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	3/13/2020 6:50 AM
Arrived at Site	3/13/2020 8:20 AM
Departed Site	
Returned to Office	

Daily Site Visit Report

Site Sketch



Spill Response and Sampling

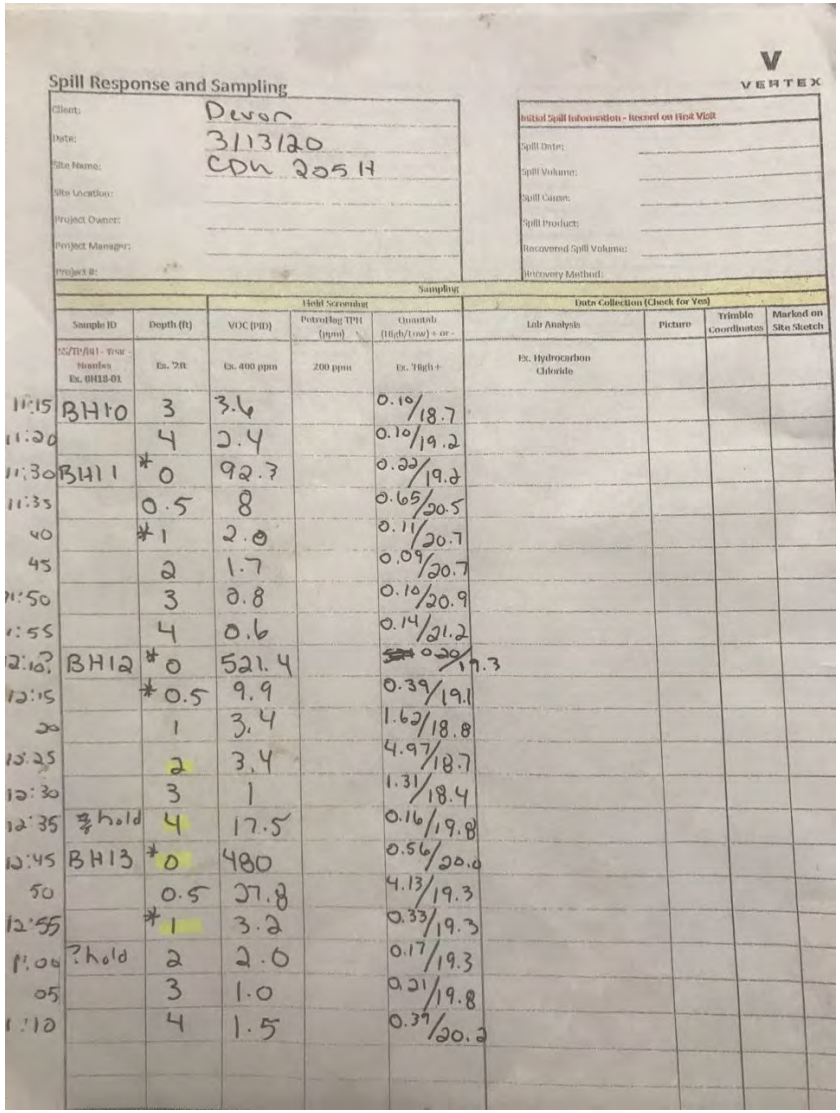
VERTEX

Client: Devon
Date: 3/13/20
Site Name: CDU 205 H
Site Location:
Project Owner:
Project Manager:
Project #:

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

	Sample ID	Depth (ft)	Field Screening VOC (PID)	Field Screening ~~Chloride~~ PID 200 ppm	Quantab (High/Low) + or -	Data Collection (Check for Yes) Lab Analysis	Picture	Trimble Coordinates	Marked on Site Sketch
	SS/TP/BH - Year - Number Ex. BH18-01	Ex. '2ft	Ex. 400 ppm	200 ppm	Ex. High+	Ex. Hydrocarbon Chloride			
8:35	BH7	*0	~~951~~	658.8	0.16/18.3	caliche			
8:40		0.5	~~1357~~	871.6	0.37/18.2	caliche			
8:45		1	~~712~~	169	0.59/17.9	sand/caliche			
8:50		*2	11.6		0.11/18.0	sand			
8:55		3	4.7		0.05/17.6	sand			
9:00		4	6		0.06/18.0	sand			
9:10	BH8	*0	915.6		0.42/18.4	caliche			
9:15		0.5	1829		0.16/18.2	caliche			
9:20		1	112		0.08/18.5	sand			
9:25	Hold	*2	24.5		0.15/18.1	sand			
9:30		3	13		0.23/19.7	sand			
9:35		4	10.5		0.35/19.8	sand			
9:45	BH9	*0	8.4		0.20/20.1	caliche			
9:50	~~hold~~	0.5	10.9		0.60/20.3	caliche			
9:55	~~hold~~	1	20		0.10/20.4	sand			
10:00		2	8.4		0.07/20.2	sand			
10:05		3	10.1		0.11/20.1	sand			
10:10		4	5.1		0.09/19.8	sand			
10:55	BH10	*0	362		0.28/19.8				
11:00		0.5	901.3		0.17/19.3				
11:05		1	97.8		0.14/19.2				
11:10	Hold	*2	27		0.08/19.0				

Daily Site Visit Report



Spill Response and Sampling

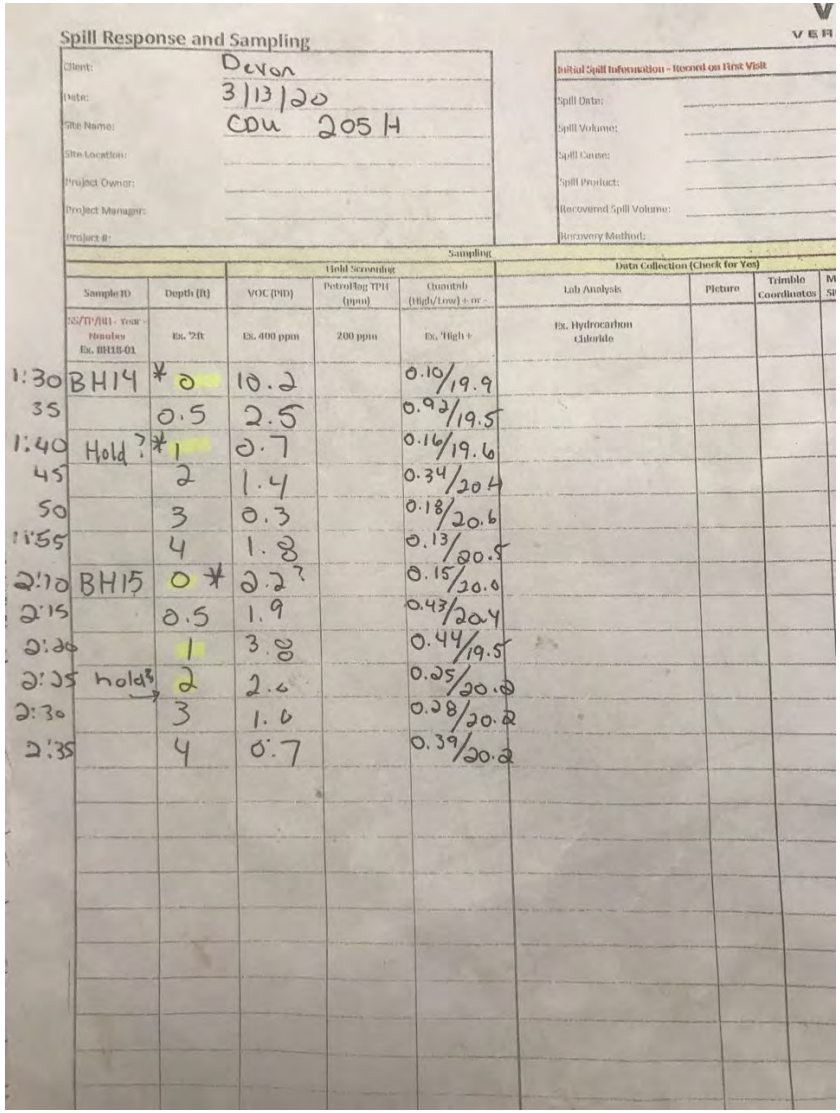
VERTEX

Client: Devon
Date: 3/13/20
Site Name: CDH 205 H
Site Location:
Project Owner:
Project Manager:
Project #:

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

			Sampling						
			Field Screening			Data Collection (Check for Yes)			
Sample ID	Depth (ft)	VOC (PID)	Petroflag TPH (ppm)	Quantab (High/Low) + or -	Lab Analysis	Picture	Trimble Coordinates	Marked on Site Sketch
SS/TP/BH - Year - Number Ex. BH18-01	Ex. 2ft	Ex. 400 ppm	200 ppm	Ex. High +	Ex. Hydrocarbon Chloride			
11:15 BH10	3	3.6		0.10/18.7				
11:20	4	2.4		0.10/19.2				
11:30 BH11	*0	92.7		0.22/19.2				
11:33	0.5	8		0.65/20.5				
40	*1	2.0		0.11/20.7				
45	2	1.7		0.09/20.7				
11:50	3	0.8		0.10/20.9				
11:55	4	0.6		0.14/21.2				
12:10 BH12	*0	521.4		~~0.20~~/19.3				
12:15	*0.5	9.9		0.39/19.1				
20	1	3.4		1.62/18.8				
12:25	2	3.4		4.97/18.7				
12:30	3	1		1.31/18.4				
12:35 ?hold	4	17.5		0.16/19.8				
12:45 BH13	*0	480		0.56/20.0				
50	0.5	37.8		4.13/19.3				
12:55	*1	3.2		0.33/19.3				
1:00 ?hold	2	2.0		0.17/19.3				
05	3	1.0		0.21/19.8				
1:10	4	1.5		0.39/20.2				

Daily Site Visit Report



Spill Response and Sampling

Client: Devon
Date: 3/13/20
Site Name: COM 205H
Site Location:
Project Owner:
Project Manager:
Project #:

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

Sampling

	Sample ID (SS/TP/BH - Year - Number Ex. BH18-01)	Depth (ft) Ex. 2ft	Field Screening: VOC (PID) Ex. 400 ppm	Field Screening: PetroFlag TPH (ppm) 200 ppm	Field Screening: Quantab (High/Low) + or - Ex. High +	Data Collection (Check for Yes): Lab Analysis Ex. Hydrocarbon Chloride	Picture	Trimble Coordinates
1:30	BH14	* 0	10.2		0.10/19.9			
35		0.5	2.5		0.92/19.5			
1:40	Hold?	* 1	0.7		0.16/19.6			
45		2	1.4		0.34/20.4			
50		3	0.3		0.18/20.6			
1:55		4	1.8		0.13/20.5			
2:10	BH15	0 *	2.2?		0.15/20.6			
2:15		0.5	1.9		0.43/20.4			
2:20		1	3.8		0.44/19.5			
2:25	hold? →	2	2.6		0.25/20.0			
2:30		3	1.6		0.28/20.2			
2:35		4	0.7		0.39/20.2			

Daily Site Visit Report

Daily Site Visit Report

Summary of Daily Operations

8:22 Continue delineation of spill area on pad, area is sloppy from rain overnight, pulling unit still on sight, multiple activities ongoing to bring well back online, vehicles driving over spill area

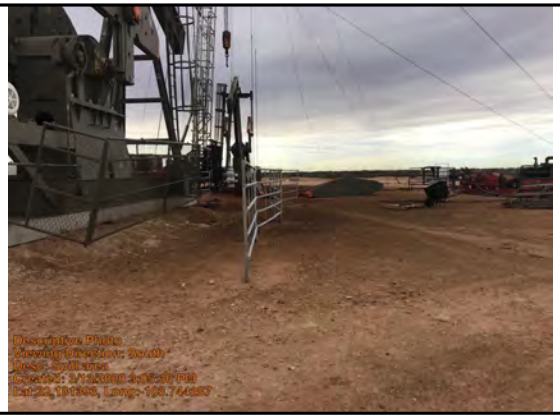
9:30 With equipment and pulling unit on top of spill area cannot delineate in those areas. Collecting samples as close to them as possible. Operator running hot oiled dumped bucket of fluid in trench area

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: West
	
Fluid dumped in trench by hot oiler and equipment on top of spill area	Spill area

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

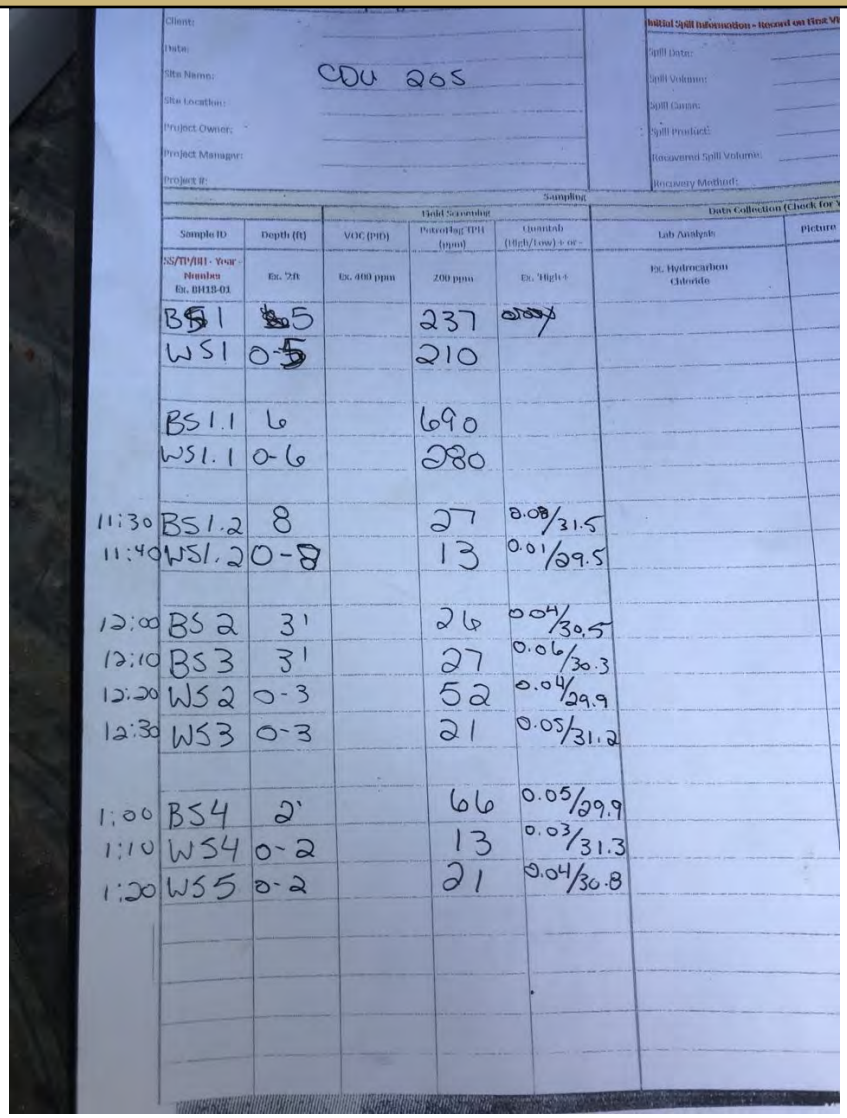
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/22/2020
Site Location Name:	Cotton Draw Unit #205H	Report Run Date:	4/22/2020 11:54 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-015-42071
Client Contact Name:	Amanda Davis	Reference	BOP Spill
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	4/22/2020 6:35 AM
Arrived at Site	4/22/2020 8:00 AM
Departed Site	4/22/2020 3:56 PM
Returned to Office	

Daily Site Visit Report

Site Sketch



Daily Site Visit Report

Daily Site Visit Report

Summary of Daily Operations

9:26 Begin excavation of pasture area and pad area. Will complete horizontal delineation of area due to previously unable to collect samples to provide where edges of spill clean up at

14:34 Original depth at end of trench where fluid was being caught cleaned up at 6 ft. Contamination traveled below and clean depth is at 8 ft. Excavation tapers up to 3 ft and then 2 ft next to pad

15:22 Pasture area excavation completed. All samples collected for area. Horizontal delineation of pad area completed and samples collected for lab analysis

Next Steps & Recommendations

1 Continue excavation on pad area

2 Send pasture samples and horizontal delineation samples to lab for analysis

Daily Site Visit Report

Site Photos

Viewing Direction: Southeast	**Viewing Direction**: Southeast
	
Trench area that has been excavated to clean	End of trench area where depth is 8ft
Viewing Direction: Northwest	**Viewing Direction**: North
	
Excavated trench area	Sidewall of trench area at deepest point

Daily Site Visit Report

Viewing Direction: West

West sidewall at deepest depth

Viewing Direction: Northwest

End of pad area where it meets with pasture where trench is being excavated

Viewing Direction: North

Soil pile on pad area at end of pasture excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/23/2020
Site Location Name:	Cotton Draw Unit #205H	Report Run Date:	4/23/2020 10:57 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-015-42071
Client Contact Name:	Amanda Davis	Reference	BOP Spill
Client Contact Phone #:	(575) 748-0176		

Summary of Times

Left Office	4/23/2020 7:00 AM
Arrived at Site	4/23/2020 8:29 AM
Departed Site	
Returned to Office	

Summary of Daily Operations

8:30 Continue excavation on pad area where majority of staining is to get below limit

9:20 On excavation a 2 ft buffer zone will be kept to avoid defeating the integrity of any equipment and flow lines in ground. Hand digging will take place on areas close to equipment

14:53 Having excavation crew do a 2-3 inch surface scrape on areas where spill area seems to not have traveled very deep into the pad area. A full 0.5” scrape is being completed on areas where spill seemed to have settled heavier. Hand digging occurred around wellhead and pumpjack

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

Trench area on pad

Viewing Direction: West

Scraped area near pumpjacks with surface scrape

Viewing Direction: South

0.5” scrape along north side of pumpjack

Viewing Direction: Northeast

Area along pumpjack where hand digging occurred

Daily Site Visit Report

Viewing Direction: North

Area on south side of pumpjack where hand digging occurred

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

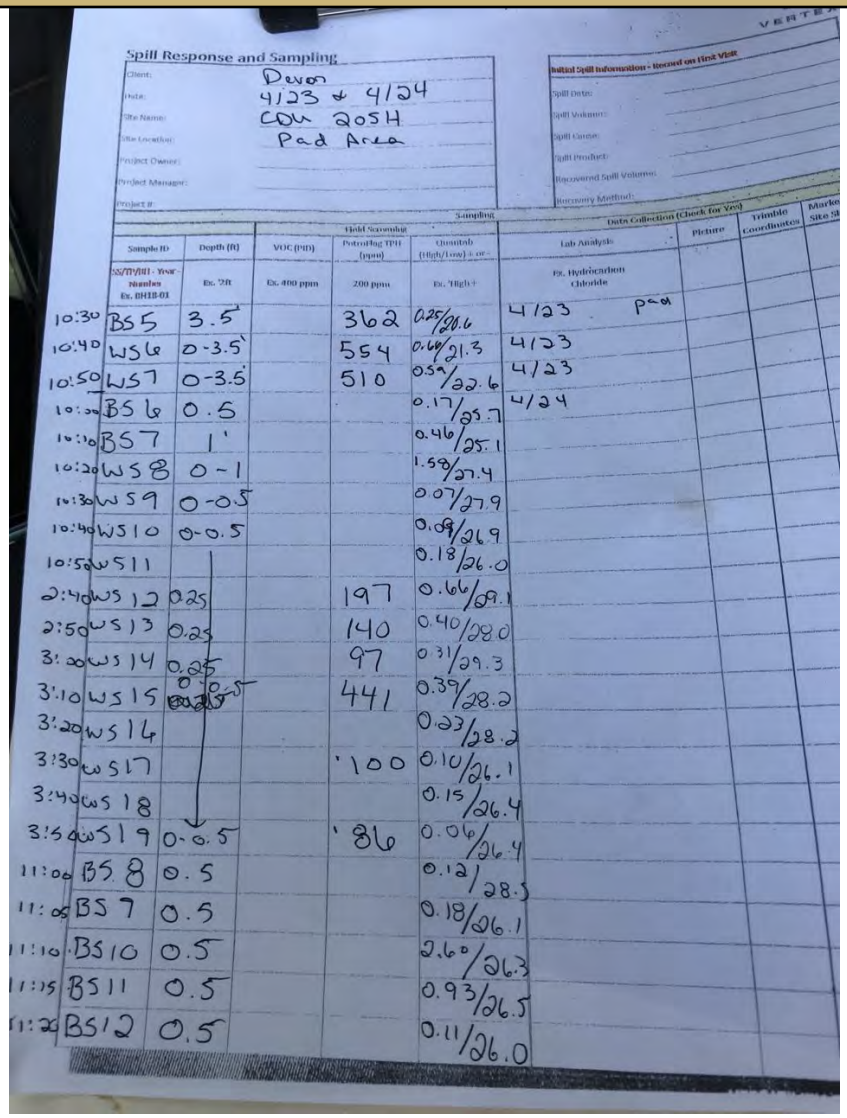
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/24/2020
Site Location Name:	Cotton Draw Unit #205H	Report Run Date:	4/25/2020 12:34 AM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-015-42071
Client Contact Name:	Amanda Davis	Reference	BOP Spill
Client Contact Phone #:	(575) 748-0176		

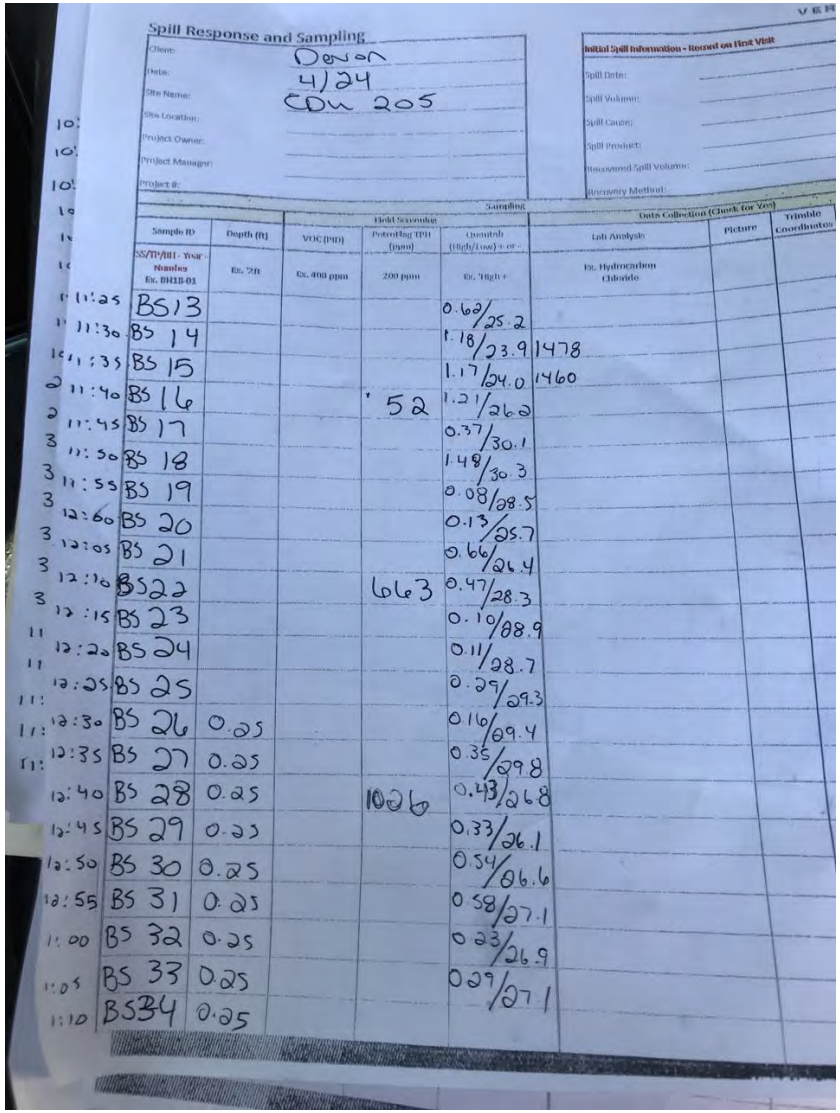
Summary of Times	
Left Office	4/24/2020 7:00 AM
Arrived at Site	4/24/2020 8:14 AM
Departed Site	4/24/2020 5:30 PM
Returned to Office	

Daily Site Visit Report

Site Sketch



Daily Site Visit Report



Spill Response and Sampling

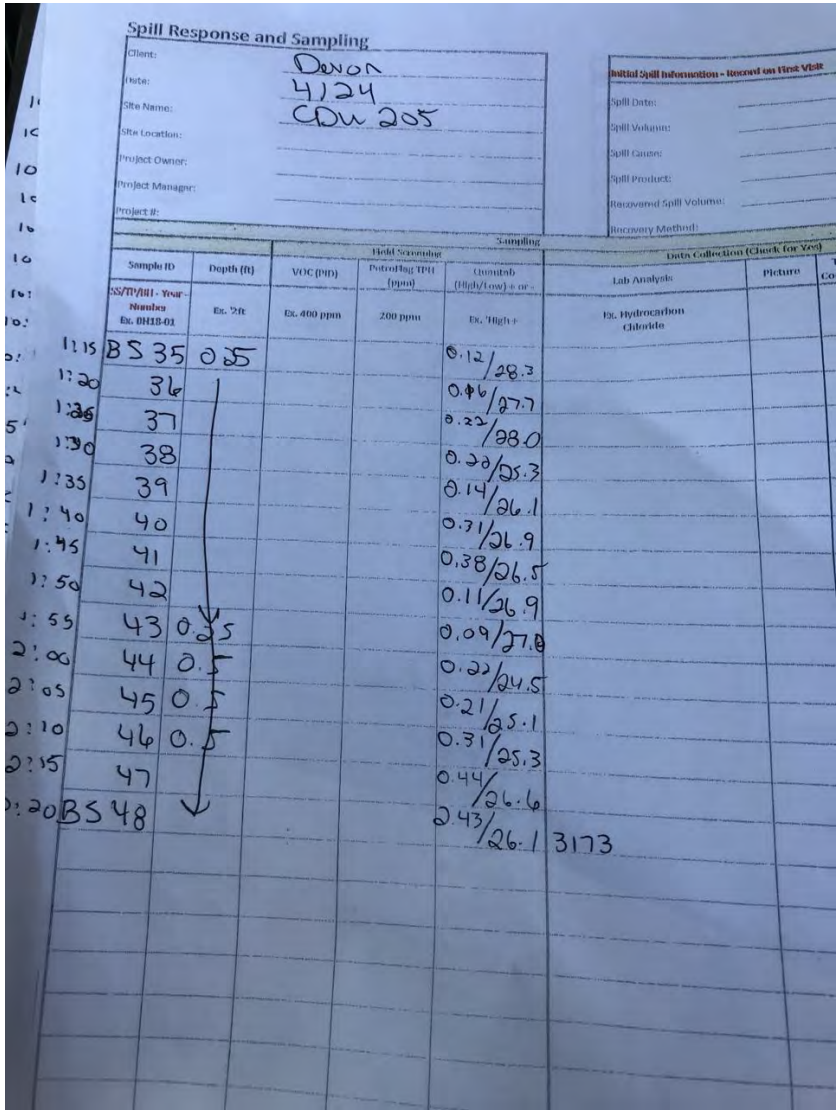
Client: Devon
Date: 4/24
Site Name: CDW 205
Site Location:
Project Owner:
Project Manager:
Project #:

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

Sampling

Sample ID	Depth (ft)	Field Screening: VOC (PID)	Field Screening: Petroflag TPH (ppm)	Chemlab (High/Low) + or -	Data Collection (Check for Yes): Lab Analysis	Picture	Trimble Coordinates
SS/TP/BH - Year - Number Ex. BH18-01	Ex. 2ft	Ex. 400 ppm	200 ppm	Ex. High +	Ex. Hydrocarbon Chloride		
11:25 BS13				0.62/25.2			
11:30 BS 14				1.18/23.9	1478		
11:35 BS 15				1.17/24.0	1460		
11:40 BS 16			52	1.21/26.2			
11:45 BS 17				0.37/30.1			
11:50 BS 18				1.48/30.3			
11:55 BS 19				0.08/28.5			
12:60 BS 20				0.13/25.7			
12:05 BS 21				0.66/26.4			
12:10 BS22			663	0.47/28.3			
12:15 BS 23				0.10/88.9			
12:20 BS 24				0.11/28.7			
12:25 BS 25				0.29/29.3			
12:30 BS 26	0.25			0.16/09.4			
12:35 BS 27	0.25			0.35/29.8			
12:40 BS 28	0.25		1026	0.43/26.8			
12:45 BS 29	0.25			0.33/26.1			
12:50 BS 30	0.25			0.54/06.6			
12:55 BS 31	0.25			0.58/27.1			
1:00 BS 32	0.25			0.23/26.9			
1:05 BS 33	0.25			0.29/27.1			
1:10 BS34	0.25						

Daily Site Visit Report



Daily Site Visit Report

Summary of Daily Operations

8:14 Complete excavation and finish collecting confirmation samples of on pad area. Hand dig around both pump jacks

17:21 Samples bs26-40 are at depth of 0.25 inches along with sidewall samples 12-14. All samples ran for chlorides. Excavation is complete

17:26 Determined that area with lighter coating of parifin may not have traveled as deep as south side so a decent surface scrape would do enough to get rid of contamination

Next Steps & Recommendations

1 Wait for lab analysis

2 Start closure report

3 Schedule backfill

Daily Site Visit Report

Site Photos

Viewing Direction: West

Excavation area on south side of pumpjack

Viewing Direction: South

Excavated area on south side of pumpjacks

Viewing Direction: East

Excavated area on south side of pumpjacks

Viewing Direction: West

Excavation area at 0.25 inches on north side of pumpjacks

Daily Site Visit Report

Viewing Direction: South

Excavation area

Viewing Direction: East

Excavation area

Viewing Direction: East

Excavation area at 0.5 inche

Viewing Direction: Northeast

Excavation on south side

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: North
	
South side of excavation net equipment	Excavation area
Viewing Direction: Southeast	**Viewing Direction**: Northwest
	
Completed trench area	Excavation area

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

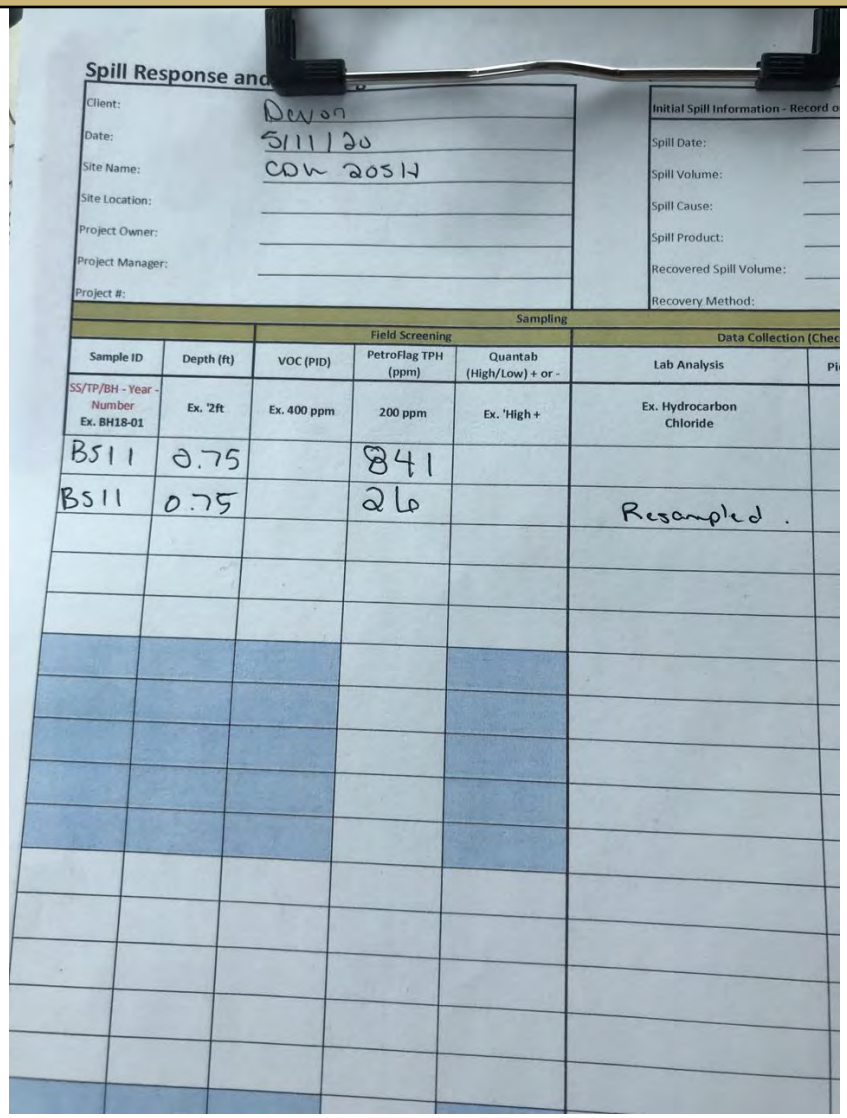
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	5/11/2020
Site Location Name:	Cotton Draw Unit #205H	Report Run Date:	5/11/2020 6:42 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-015-42071
Client Contact Name:	Amanda Davis	Reference	BOP Spill
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	5/11/2020 8:18 AM
Arrived at Site	5/11/2020 9:18 AM
Departed Site	
Returned to Office	

Daily Site Visit Report

Site Sketch



Spill Response and

Client: Devon
Date: 5/11/20
Site Name: COM 205H
Site Location:
Project Owner:
Project Manager:
Project #:

Initial Spill Information - Record o
Spill Date:
Spill Volume:
Spill Cause:
Spill Product:
Recovered Spill Volume:
Recovery Method:

Sampling

		Field Screening			Data Collection (Chec	
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	Quantab (High/Low) + or -	Lab Analysis	Pi
SS/TP/BH - Year - Number Ex. BH18-01	Ex. '2ft	Ex. 400 ppm	200 ppm	Ex. 'High +	Ex. Hydrocarbon Chloride	
BS11	0.75		841			
BS11	0.75		26		Resampled.	

Daily Site Visit Report

Summary of Daily Operations

9:18 Readdressing sample point bs20-11 for failed lab results and get crew started on backfill of pasture area and rest of pad area

9:45 Area of bs11 will take out a bucket of soil to get down to 0.75 inches to resample for confirmation

10:59 First petroflag reading came back higher than wanted, had operator surface scrape small area and recollected and field screened again.

Next Steps & Recommendations

1 Complete backfill

2 Start closure report

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: South
	
Excavated area	Area in pasture being back filled
Viewing Direction: North	**Viewing Direction**: North
	
Area of excavation	Area along side pumpjack where excavation occurred

Daily Site Visit Report

Viewing Direction: East

Area of excavation

Viewing Direction: East

Scraped area on north side of pumpjacks

Viewing Direction: West

Area scraped on north side of pumpjacks

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

ATTACHMENT 5

Client Name: Devon Energy Production Company
Site Name: Cotton Draw Unit #205H
NM OCD Incident Tracking Number: NRM2007031081
Project #: 20E-00141-042
Lab Reports: 2003671; 2003760; 2004A52

Table 2. Characterization Field Screening and Sampling Laboratory Data - Depth to Groundwater >100 ft

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Quantab - High/Low)	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(+/-)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH 20-01	4	March 12, 2020	625.0	-	-	0.18	**40.880**	860	24,000	8,900	**24,860**	**33,760**	170
BH 20-01	6	March 12, 2020	18.9	-	-	<0.024	<0.216	<4.8	<9.5	<48	<14.3	<62.3	<60
BH 20-02	1.5	March 12, 2020	1,120.0	-	-	0.16	11.640	270	12,000	4,400	**12,270**	**16,670**	<60
BH 20-02	3.5	March 12, 2020	8.2	-	-	<0.024	<0.220	<4.9	<9.3	<46	<14.2	<60.2	1,600
BH 20-03	1.5	March 12, 2020	515.6	-	-	<0.470	4.500	320	12,000	4,600	**12,320**	**16,920**	110
BH 20-03	3.5	March 12, 2020	21.8	-	-	<0.025	<0.221	<4.9	<10.0	<50	<14.9	<64.9	140
BH 20-04	1	March 12, 2020	1,424.0	-	-	2.8	**163.800**	2,500	32,000	11,000	**34,500**	**45,500**	250
BH 20-04	3	March 12, 2020	283.0	-	-	<0.023	<0.208	<4.6	87	<48	87	87	1,900
BH 20-04	6	March 12, 2020	63.0	-	-	<0.024	<0.216	<4.8	19	<49	19	19	5,700
BH 20-04	8	March 12, 2020	40.8	-	-	<0.024	<0.217	<4.8	<9.6	<48	<14.4	<62.4	9,600
BH 20-05	0	March 12, 2020	1,187.0	-	-	0.63	**90.730**	1200	24,000	8,200	**25,200**	**33,400**	120
BH 20-05	2	March 12, 2020	57.9	-	-	<0.024	<0.213	<4.7	<9.3	<46	<14.0	<60.0	<60
BH 20-06	0	March 12, 2020	850.8	-	-	<0.50	**43.700**	640	17,000	5,700	**17,640**	**23,340**	3,800
BH 20-06	1	March 12, 2020	34.0	-	-	<0.024	<0.215	<4.8	<9.9	<50	<14.7	<64.7	<60
BH 20-08	0.5	March 13, 2020	1,829.0	-	-	1.1	126.100	1,400	20,000	5,700	**21,400**	**27,100**	89
BH 20-08	1	March 13, 2020	112.0	-	-	<0.023	<0.208	<4.6	<9.5	<48	<14.1	<62.1	<60
BH 20-09	0	March 13, 2020	8.4	-	-	<0.023	<0.210	<4.7	820	500	820	1,320	78
BH 20-10	0	March 13, 2020	362.0	-	-	0.25	46.450	570	33,000	14,000	**33,570**	**47,570**	240
BH 20-10	1	March 13, 2020	97.8	-	-	<0.023	<0.207	<4.6	120	68	120	188	75
BH 20-12	2	March 13, 2020	3.4	-	-	<0.023	<0.211	<4.7	<9.2	<46	<13.9	<59.9	7,900
BH 20-13	0	March 13, 2020	480.0	-	-	0.062	12.162	200	18,000	8,400	**18,200**	**26,600**	730
BH 20-13	1	March 13, 2020	3.2	-	-	<0.024	<0.215	<4.8	<9.8	<49	<14.6	<63.6	370
BH 20-14	0	March 13, 2020	10.2	-	-	<0.023	0.120	<4.7	5,600	3,000	**5,600**	**8,600**	<60
BH 20-14	1	March 13, 2020	-	-	-	<0.024	<0.220	<4.9	<9.2	<46	<14.1	<60.1	120
BH 20-15	0	March 13, 2020	2.2	-	-	<0.024	<0.213	<4.7	6,100	3,400	**6,100**	**9,500**	68
BH 20-15	1	March 13, 2020	3.8	-	-	<0.024	<0.219	<4.9	<9.4	<47	<14.3	<61.3	490
SS 20 -01	0.5	April 22, 2020	-	-	-	<0.025	<0.222	<4.9	14	<49	14	14	<60
SS 20-02	0.5	April 22, 2020	-	-	-	<0.025	<0.224	<5.0	18	<46	18	18	64
SS 20-03	0.5	April 22, 2020	-	-	-	<0.024	<0.219	<4.9	<9.5	<48	<14.4	<62.4	75
SS 20-04	0.5	April 22, 2020	-	-	-	<0.025	<0.224	<5.0	12	<46	12	12	130

"-" - Not sampled/analyzed

Bold and shaded indicates exceedance outside of applied action level

Client Name: Devon Energy Production Company
Site Name: Cotton Draw #205H
NM OCD Incident Tracking Number: NRM2007031081
Project #: 20E-00141-042
Lab Reports: 2004A54 and 2004B28

Table 3. Confirmatory Sampling Laboratory Results - Depth to Groundwater >100 ft

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Electroconductivity)	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS20-01	8	April 22, 2020	-	27	<0	<0.025	<0.224	<5.0	<9.4	<47	<14.4	<61.4	<60
BS20-02	3	April 22, 2020	-	26	<0	<0.024	<0.219	<4.9	<9.9	<50	<14.8	<64.8	<60
BS20-03	3	April 22, 2020	-	27	<0	<0.025	<0.222	<4.9	<8.8	<44	<13.7	<57.7	<60
BS20-04	2	April 22, 2020	-	66	<0	<0.024	<0.217	<4.8	9.8	<48	9.8	9.8	<60
BS20-05	3.5	April 23, 2020	-	362	279	<0.023	<0.211	<4.7	490	200	490	690	250
BS20-06	0.5	April 24, 2020	-	-	<0	<0.024	<0.219	<4.9	270	190	270	460	160
BS20-07	1	April 24, 2020	-	-	387	<0.024	<0.215	<4.8	140	95	140	235	390
BS20-08	0.5	April 24, 2020	-	-	<0	<0.024	<0.216	<4.8	<9.9	<49	<14.7	<63.7	<60
BS20-09	0.5	April 24, 2020	-	-	<0	<0.025	<0.225	<5.0	69	<50	69	69	170
BS20-10	0.5	April 24, 2020	-	-	3,424	<0.025	<0.220	<4.9	<9.6	<48	<14.5	<62.5	2,900
BS20-11	0.5	April 24, 2020	-	-	1,005	<0.12	1.700	51	3,800	1,400	**3,851**	**5,251**	820
BS 20-11	1	May 11, 2020	-	-	-	<0.025	<0.224	<5.0	<10.0	<50	<15.0	<65.0	<60
BS20-12	0.5	April 24, 2020	-	-	<0	<0.024	<0.219	<4.9	62	<50	62	62	<60
BS20-13	0.5	April 24, 2020	-	-	614	<0.024	<0.216	<4.8	250	610	250	860	770
BS20-14	0.5	April 24, 2020	-	-	1,478	<0.023	<0.207	<4.6	<9.5	<47	<14.1	<61.1	1,400
BS20-15	0.5	April 24, 2020	-	-	1,640	<0.024	<0.216	<4.8	<9.6	<48	<14.4	<62.4	2,300
BS20-16	0.5	April 24, 2020	-	52	1,422	<0.024	<0.213	<4.7	<9.5	<47	<14.2	<61.2	1,500
BS20-17	0.5	April 24, 2020	-	-	41	<0.024	<0.215	<4.8	<9.4	<47	<14.2	<61.2	330
BS20-18	0.5	April 24, 2020	-	-	1,634	<0.023	<0.211	<4.7	<9.7	<48	<14.4	<62.4	1,200
BS20-19	0.5	April 24, 2020	-	-	<0	<0.024	<0.213	<4.7	<9.8	<49	<14.5	<63.5	<60
BS20-20	0.5	April 24, 2020	-	-	<0	<0.024	<0.216	<4.8	<9.9	<49	<14.7	<63.7	<60
BS20-21	0.5	April 24, 2020	-	-	620	<0.024	<0.217	<4.8	160	250	160	410	630
BS20-22	0.5	April 24, 2020	-	663	263	<0.024	0.110	23	740	370	763	1,133	220
BS20-23	0.5	April 24, 2020	-	-	<0	<0.025	<0.221	<4.9	<9.0	<45	<13.9	<58.9	<60
BS20-24	0.5	April 24, 2020	-	-	<0	<0.024	<0.219	<4.9	<9.3	<46	<14.2	<60.2	<60
BS20-25	0.5	April 24, 2020	-	-	<0	<0.024	<0.217	<4.8	<9.7	<48	<14.5	<62.5	240
BS20-26	0.25	April 24, 2020	-	-	<0	<0.024	<0.220	<4.9	15	<48	15	15	81
BS20-27	0.25	April 24, 2020	-	-	25	<0.024	<0.216	<4.8	22	<50	22	22	320
BS20-28*	0.25	April 24, 2020	-	1,026	270	-	-	-	-	-	-	-	-
BS20-29	0.25	April 24, 2020	-	-	156	<0.024	<0.220	<4.9	33	<49	33	33	330
BS20-30	0.25	April 24, 2020	-	-	438	<0.024	<0.219	<4.9	<9.6	<48	<14.5	<62.5	550
BS20-31	0.25	April 24, 2020	-	-	474	<0.025	<0.222	<4.9	<9.7	<49	<14.6	<63.6	540
BS20-32	0.25	April 24, 2020	-	-	<0	<0.025	<0.225	<5.0	<9.8	<49	<14.8	<63.8	140
BS20-33	0.25	April 24, 2020	-	-	55	<0.024	<0.212	<4.7	90	140	90	230	180
BS20-34	0.25	April 24, 2020	-	-	-	<0.024	<0.213	<4.7	<9.8	<49	<14.5	<63.5	130
BS20-35	0.25	April 24, 2020	-	-	<0	<0.025	<0.225	<5.0	<9.9	<49	<14.9	<63.9	130
BS20-36	0.25	April 24, 2020	-	-	<0	<0.024	<0.220	<4.9	<9.5	<47	<14.4	<61.4	110
BS20-37	0.25	April 24, 2020	-	-	<0	<0.025	<0.221	<4.9	<9.8	<49	<14.7	<63.7	110
BS20-38	0.25	April 24, 2020	-	-	3	<0.025	<0.225	<5.0	26	<48	26	26	130
BS20-39	0.25	April 24, 2020	-	-	<0	<0.024	<0.213	<4.7	<9.4	<47	<14.1	<61.1	78
BS20-40	0.25	April 24, 2020	-	-	93	<0.025	<0.225	<5.0	15	<45	15	15	250
BS20-41	0.5	April 24, 2020	-	-	211	<0.025	<0.222	<4.9	110	150	110	260	270
BS20-42	0.5	April 24, 2020	-	-	<0	<0.024	<0.220	<4.9	22	<48	22	22	<60
BS20-43	0.5	April 24, 2020	-	-	<0	<0.025	<0.224	<5.0	<9.7	<49	<14.7	<63.7	<60
BS20-44	0.5	April 24, 2020	-	-	67	<0.025	<0.225	<5.0	14	<48	14	14	180
BS20-45	0.5	April 24, 2020	-	-	26	<0.025	<0.225	<5.0	<9.9	<49	<14.9	<63.9	150
BS20-46	0.5	April 24, 2020	-	-	162	<0.025	<0.225	<5.0	<9.6	<48	<14.6	<62.6	240
BS20-47	0.5	April 24, 2020	-	-	293	<0.025	<0.224	<5.0	<10	<50	<15	<65	410
BS20-48	0.5	April 24, 2020	-	-	3,173	<0.024	<0.215	<4.8	<9.4	<47	<14.2	<61.2	3,100
WS20-01	0-8	April 22, 2020	-	13	<0	<0.025	<0.222	<4.9	<9.5	<47	<14.4	<61.4	<60
WS20-02	0-3	April 22, 2020	-	52	<0	<0.025	<0.225	<5.0	13	<50	13	13	<60
WS20-03	0-3	April 22, 2020	-	21	<0	<0.025	<0.225	<5.0	<9.8	<49	<14.8	<63.8	<60
WS20-04	0-2	April 22, 2020	-	13	<0	<0.025	<0.222	<4.9	<9.8	<49	<14.7	<63.7	<60
WS20-05	0-2	April 22, 2020	-	21	<0	<0.025	<0.222	<4.9	<9.9	<49	<14.8	<63.8	<60
WS20-06	0-3.5	April 23, 2020	-	554	840	<0.025	<0.224	<5.0	490	200	490	200	120
WS20-07	0-3.5	April 23, 2020	-	510	683	<0.024	<0.220	10	490	200	500	700	510
WS20-08	0-1	April 24, 2020	-	-	1,904	<0.024	<0.219	<4.9	<9.5	<48	<14.4	<62.4	1,800
WS20-09	0-0.5	April 24, 2020	-	-	<0	<0.024	<0.216	<4.8	23	<45	23	23	<60

VERTEX

Client Name: Devon Energy Production Company
Site Name: Cotton Draw #205H
NM OCD Incident Tracking Number: NRM2007031081
Project #: 20E-00141-042
Lab Reports: 2004A54 and 2004B28

Table 3. Confirmatory Sampling Laboratory Results - Depth to Groundwater >100 ft

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Electroconductivity)	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
WS20-10	0-0.5	April 24, 2020	-	-	<0	<0.025	<0.225	<5.0	<9.3	<46	<14.3	<60.3	<60
WS20-11	0-0.5	April 24, 2020	-	-	<0	<0.024	<0.220	<4.9	<9.5	<47	<14.4	<61.4	110
WS20-12	0-0.25	April 24, 2020	-	197	503	<0.024	<0.217	<4.8	24	58	24	82	690
WS20-13	0-0.25	April 24, 2020	-	140	175	<0.025	<0.221	<4.9	14	<50	14	14	280
WS20-14	0-0.25	April 24, 2020	-	97	<0	<0.023	<0.211	<4.7	28	<50	28	28	200
WS20-15	0-0.5	April 24, 2020	-	441	152	<0.024	<0.220	<4.9	310	380	310	690	270
WS20-16	0-0.5	April 24, 2020	-	-	<0	<0.024	<0.220	<4.9	<8.7	<44	<13.6	<57.6	130
WS20-17	0-0.5	April 24, 2020	-	100	<0	<0.024	<0.220	<4.9	47	<48	47	47	<60
WS20-18	0-0.5	April 24, 2020	-	-	<0	<0.024	<0.216	<4.8	910	1,500	910	2,410	68
WS20-19	0-0.5	April 24, 2020	-	86	<0	<0.025	<0.222	<4.9	22	<50	22	22	<60

*Sample compromised during shipping and unable to be analyzed
"-" - Not applicable/assessed
Green highlighted cells are confirmatory samples for off-pad
Bold and shaded indicates exceedance outside of applied action level

ATTACHMENT 6

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Thursday, April 16, 2020 4:10 PM
To: Natalie Gordon
Subject: Fwd: NRM2007031081: Cotton Draw Unit #205H 48-hr Notification of Confirmation Sampling

---------- Forwarded message ---------
From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Thu, Apr 16, 2020 at 4:09 PM
Subject: NRM2007031081: Cotton Draw Unit #205H 48-hr Notification of Confirmation Sampling
To: Bratcher, Mike, EMNRD <Mike.Bratcher@state.nm.us>, Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>, Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>, <Jamos@blm.gov>, Kelsey <KWade@blm.gov>, <blm_nm_cfo_spill@blm.gov>
Cc: <Lupe.Carrasco@dvn.com>, <amanda.davis@dvn.com>, <wesley.mathews@dvn.com>, <tom.bynum@dvn.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled remediation field activities and confirmatory sampling to be conducted at Cotton Draw Unit #205H for the release that occurred on February 24, 2020, incident tracking # NRM2007031081.

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

On Wednesday, April 22, 2020 at approximately 8:00 a.m., Monica Peppin of Vertex will be onsite to guide remediation activities. She will begin collecting confirmatory sampling as the remediation activities finish up. Monica can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact her. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

Natalie Gordon
Project Manager

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

P 575.725.5001 ext 709
C 505.506.0040
F

www.vertex.ca

ATTACHMENT 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 24, 2020

Natalie Gordon

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

RE: Cotton Draw Unit 205 H OrderNo.: 2003671

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 15 sample(s) on 3/14/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-01 4'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 9:30:00 AM
Lab ID: 2003671-001 **Matrix:** SOIL
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	24000	940		mg/Kg	100	3/19/2020 4:09:19 PM
Motor Oil Range Organics (MRO)	8900	4700		mg/Kg	100	3/19/2020 4:09:19 PM
Surr: DNOP	0	55.1-146	S	%Rec	100	3/19/2020 4:09:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	860	50		mg/Kg	10	3/20/2020 3:49:38 AM
Surr: BFB	572	66.6-105	S	%Rec	10	3/20/2020 3:49:38 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.18	0.025		mg/Kg	1	3/19/2020 2:30:47 AM
Toluene	6.1	0.50		mg/Kg	10	3/20/2020 3:49:38 AM
Ethylbenzene	3.6	0.050		mg/Kg	1	3/19/2020 2:30:47 AM
Xylenes, Total	31	0.99		mg/Kg	10	3/20/2020 3:49:38 AM
Surr: 4-Bromofluorobenzene	382	80-120	S	%Rec	1	3/19/2020 2:30:47 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	170	60		mg/Kg	20	3/20/2020 5:47:37 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-01 6'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 9:35:00 AM
Lab ID: 2003671-002 **Matrix:** SOIL
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/18/2020 7:55:06 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/18/2020 7:55:06 PM
Surr: DNOP	103	55.1-146		%Rec	1	3/18/2020 7:55:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/20/2020 12:46:23 PM
Surr: BFB	93.9	66.6-105		%Rec	1	3/20/2020 12:46:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/20/2020 12:46:23 PM
Toluene	ND	0.048		mg/Kg	1	3/20/2020 12:46:23 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/20/2020 12:46:23 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/20/2020 12:46:23 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/20/2020 12:46:23 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/20/2020 5:59:58 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-02 1.5'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 9:45:00 AM
Lab ID: 2003671-003 **Matrix:** SOIL **Received Date:** 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	12000	460		mg/Kg	50	3/19/2020 4:33:31 PM
Motor Oil Range Organics (MRO)	4400	2300		mg/Kg	50	3/19/2020 4:33:31 PM
Surr: DNOP	0	55.1-146	S	%Rec	50	3/19/2020 4:33:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	270	93		mg/Kg	20	3/20/2020 1:33:38 PM
Surr: BFB	188	66.6-105	S	%Rec	20	3/20/2020 1:33:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.16	0.12		mg/Kg	5	3/19/2020 3:17:47 AM
Toluene	2.0	0.23		mg/Kg	5	3/19/2020 3:17:47 AM
Ethylbenzene	0.98	0.23		mg/Kg	5	3/19/2020 3:17:47 AM
Xylenes, Total	8.5	0.47		mg/Kg	5	3/19/2020 3:17:47 AM
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	5	3/19/2020 3:17:47 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/20/2020 6:12:18 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-02 3.5'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 9:50:00 AM
Lab ID: 2003671-004 **Matrix:** SOIL **Received Date:** 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/18/2020 9:07:11 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/18/2020 9:07:11 PM
Surr: DNOP	103	55.1-146		%Rec	1	3/18/2020 9:07:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/20/2020 1:57:07 PM
Surr: BFB	92.4	66.6-105		%Rec	1	3/20/2020 1:57:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/19/2020 3:41:17 AM
Toluene	ND	0.049		mg/Kg	1	3/19/2020 3:41:17 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/19/2020 3:41:17 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/19/2020 3:41:17 AM
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	3/19/2020 3:41:17 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1600	61		mg/Kg	20	3/20/2020 6:49:19 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-03 1.5'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 10:00:00 AM
Lab ID: 2003671-005 **Matrix:** SOIL
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	12000	460		mg/Kg	50	3/19/2020 4:57:50 PM
Motor Oil Range Organics (MRO)	4600	2300		mg/Kg	50	3/19/2020 4:57:50 PM
Surr: DNOP	0	55.1-146	S	%Rec	50	3/19/2020 4:57:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	320	94		mg/Kg	20	3/20/2020 2:20:29 PM
Surr: BFB	225	66.6-105	S	%Rec	20	3/20/2020 2:20:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.47	D	mg/Kg	20	3/20/2020 2:20:29 PM
Toluene	ND	0.94	D	mg/Kg	20	3/20/2020 2:20:29 PM
Ethylbenzene	ND	0.94	D	mg/Kg	20	3/20/2020 2:20:29 PM
Xylenes, Total	4.5	1.9	D	mg/Kg	20	3/20/2020 2:20:29 PM
Surr: 4-Bromofluorobenzene	117	80-120	D	%Rec	20	3/20/2020 2:20:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	110	60		mg/Kg	20	3/20/2020 7:01:39 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-03 3.5'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 10:05:00 AM
Lab ID: 2003671-006 **Matrix:** SOIL **Received Date:** 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/18/2020 9:55:12 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/18/2020 9:55:12 PM
Surr: DNOP	109	55.1-146		%Rec	1	3/18/2020 9:55:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/20/2020 2:43:49 PM
Surr: BFB	97.0	66.6-105		%Rec	1	3/20/2020 2:43:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/20/2020 2:43:49 PM
Toluene	ND	0.049		mg/Kg	1	3/20/2020 2:43:49 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/20/2020 2:43:49 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/20/2020 2:43:49 PM
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	3/20/2020 2:43:49 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	140	60		mg/Kg	20	3/20/2020 12:13:40 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003671-007 **Matrix:** SOIL

Client Sample ID: BH20-05 0'
Collection Date: 3/12/2020 10:40:00 AM
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	24000	950		mg/Kg	100	3/19/2020 5:22:03 PM
Motor Oil Range Organics (MRO)	8200	4700		mg/Kg	100	3/19/2020 5:22:03 PM
Surr: DNOP	0	55.1-146	S	%Rec	100	3/19/2020 5:22:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	1200	100		mg/Kg	20	3/20/2020 3:07:07 PM
Surr: BFB	377	66.6-105	S	%Rec	20	3/20/2020 3:07:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.63	0.50		mg/Kg	20	3/20/2020 3:07:07 PM
Toluene	11	1.0		mg/Kg	20	3/20/2020 3:07:07 PM
Ethylbenzene	8.1	1.0		mg/Kg	20	3/20/2020 3:07:07 PM
Xylenes, Total	71	2.0		mg/Kg	20	3/20/2020 3:07:07 PM
Surr: 4-Bromofluorobenzene	133	80-120	S	%Rec	20	3/20/2020 3:07:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	120	60		mg/Kg	20	3/20/2020 1:40:07 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003671-008 **Matrix:** SOIL

Client Sample ID: BH20-05 2'
Collection Date: 3/12/2020 10:45:00 AM
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/18/2020 10:43:21 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/18/2020 10:43:21 PM
Surr: DNOP	104	55.1-146		%Rec	1	3/18/2020 10:43:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/20/2020 3:30:34 PM
Surr: BFB	99.9	66.6-105		%Rec	1	3/20/2020 3:30:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/20/2020 3:30:34 PM
Toluene	ND	0.047		mg/Kg	1	3/20/2020 3:30:34 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/20/2020 3:30:34 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/20/2020 3:30:34 PM
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	3/20/2020 3:30:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/20/2020 1:52:27 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003671-010 **Matrix:** SOIL

Client Sample ID: BH20-06 0'
Collection Date: 3/12/2020 11:00:00 AM
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	17000	490		mg/Kg	50	3/19/2020 5:46:26 PM
Motor Oil Range Organics (MRO)	5700	2400		mg/Kg	50	3/19/2020 5:46:26 PM
Surr: DNOP	0	55.1-146	S	%Rec	50	3/19/2020 5:46:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	640	100		mg/Kg	20	3/20/2020 3:54:09 PM
Surr: BFB	258	66.6-105	S	%Rec	20	3/20/2020 3:54:09 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.50	D	mg/Kg	20	3/20/2020 3:54:09 PM
Toluene	4.7	1.0	D	mg/Kg	20	3/20/2020 3:54:09 PM
Ethylbenzene	4.0	1.0	D	mg/Kg	20	3/20/2020 3:54:09 PM
Xylenes, Total	35	2.0	D	mg/Kg	20	3/20/2020 3:54:09 PM
Surr: 4-Bromofluorobenzene	117	80-120	D	%Rec	20	3/20/2020 3:54:09 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	3800	150		mg/Kg	50	3/22/2020 3:25:27 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-06 1'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 11:05:00 AM
Lab ID: 2003671-011 **Matrix:** SOIL
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/18/2020 11:31:16 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/18/2020 11:31:16 PM
Surr: DNOP	104	55.1-146		%Rec	1	3/18/2020 11:31:16 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/20/2020 2:17:09 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	3/18/2020 11:31:29 PM
Toluene	ND	0.048		mg/Kg	1	3/18/2020 11:31:29 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/18/2020 11:31:29 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/18/2020 11:31:29 PM
Surr: 1,2-Dichloroethane-d4	89.0	70-130		%Rec	1	3/18/2020 11:31:29 PM
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	3/18/2020 11:31:29 PM
Surr: Dibromofluoromethane	94.5	70-130		%Rec	1	3/18/2020 11:31:29 PM
Surr: Toluene-d8	101	70-130		%Rec	1	3/18/2020 11:31:29 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/18/2020 11:31:29 PM
Surr: BFB	96.2	70-130		%Rec	1	3/18/2020 11:31:29 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-04 1'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 10:15:00 AM
Lab ID: 2003671-012 **Matrix:** SOIL
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	32000	980		mg/Kg	100	3/19/2020 3:54:15 AM
Motor Oil Range Organics (MRO)	11000	4900		mg/Kg	100	3/19/2020 3:54:15 AM
Surr: DNOP	0	55.1-146	S	%Rec	100	3/19/2020 3:54:15 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	250	60		mg/Kg	20	3/20/2020 2:29:30 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	2.8	0.024		mg/Kg	1	3/19/2020 12:57:28 AM
Toluene	38	0.48		mg/Kg	10	3/19/2020 12:50:59 PM
Ethylbenzene	13	0.48		mg/Kg	10	3/19/2020 12:50:59 PM
Xylenes, Total	110	0.95		mg/Kg	10	3/19/2020 12:50:59 PM
Surr: 1,2-Dichloroethane-d4	84.7	70-130		%Rec	1	3/19/2020 12:57:28 AM
Surr: 4-Bromofluorobenzene	62.7	70-130	S	%Rec	1	3/19/2020 12:57:28 AM
Surr: Dibromofluoromethane	91.4	70-130		%Rec	1	3/19/2020 12:57:28 AM
Surr: Toluene-d8	100	70-130		%Rec	1	3/19/2020 12:57:28 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	2500	48		mg/Kg	10	3/19/2020 12:50:59 PM
Surr: BFB	115	70-130		%Rec	10	3/19/2020 12:50:59 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-04 3'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 10:20:00 AM
Lab ID: 2003671-013 **Matrix:** SOIL
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	87	9.5		mg/Kg	1	3/19/2020 4:18:01 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/19/2020 4:18:01 AM
Surr: DNOP	99.8	55.1-146		%Rec	1	3/19/2020 4:18:01 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1900	60		mg/Kg	20	3/20/2020 2:41:50 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.023		mg/Kg	1	3/19/2020 2:51:56 AM
Toluene	ND	0.046		mg/Kg	1	3/19/2020 2:51:56 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/19/2020 2:51:56 AM
Xylenes, Total	ND	0.093		mg/Kg	1	3/19/2020 2:51:56 AM
Surr: 1,2-Dichloroethane-d4	92.7	70-130		%Rec	1	3/19/2020 2:51:56 AM
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	3/19/2020 2:51:56 AM
Surr: Dibromofluoromethane	94.9	70-130		%Rec	1	3/19/2020 2:51:56 AM
Surr: Toluene-d8	102	70-130		%Rec	1	3/19/2020 2:51:56 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/19/2020 2:51:56 AM
Surr: BFB	102	70-130		%Rec	1	3/19/2020 2:51:56 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-04 6'
Project: Cotton Draw Unit 205 H
Collection Date: 3/12/2020 10:25:00 AM
Lab ID: 2003671-014 **Matrix:** SOIL
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	19	9.8		mg/Kg	1	3/19/2020 4:41:56 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/19/2020 4:41:56 AM
Surr: DNOP	94.1	55.1-146		%Rec	1	3/19/2020 4:41:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	5700	300		mg/Kg	100	3/22/2020 3:37:48 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	3/19/2020 3:20:30 AM
Toluene	ND	0.048		mg/Kg	1	3/19/2020 3:20:30 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/19/2020 3:20:30 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/19/2020 3:20:30 AM
Surr: 1,2-Dichloroethane-d4	85.9	70-130		%Rec	1	3/19/2020 3:20:30 AM
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	3/19/2020 3:20:30 AM
Surr: Dibromofluoromethane	94.8	70-130		%Rec	1	3/19/2020 3:20:30 AM
Surr: Toluene-d8	99.7	70-130		%Rec	1	3/19/2020 3:20:30 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/19/2020 3:20:30 AM
Surr: BFB	98.1	70-130		%Rec	1	3/19/2020 3:20:30 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003671**
Date Reported: **3/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003671-015 **Matrix:** SOIL

Client Sample ID: BH20-04 8'
Collection Date: 3/12/2020 10:30:00 AM
Received Date: 3/14/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/19/2020 5:05:38 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/19/2020 5:05:38 AM
Surr: DNOP	97.2	55.1-146		%Rec	1	3/19/2020 5:05:38 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	9600	300		mg/Kg	100	3/22/2020 3:50:09 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	3/19/2020 3:49:02 AM
Toluene	ND	0.048		mg/Kg	1	3/19/2020 3:49:02 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/19/2020 3:49:02 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/19/2020 3:49:02 AM
Surr: 1,2-Dichloroethane-d4	90.4	70-130		%Rec	1	3/19/2020 3:49:02 AM
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	3/19/2020 3:49:02 AM
Surr: Dibromofluoromethane	92.5	70-130		%Rec	1	3/19/2020 3:49:02 AM
Surr: Toluene-d8	99.4	70-130		%Rec	1	3/19/2020 3:49:02 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/19/2020 3:49:02 AM
Surr: BFB	97.0	70-130		%Rec	1	3/19/2020 3:49:02 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003671**

24-Mar-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **MB-51232** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **51232** RunNo: **67421**

Prep Date: **3/19/2020** Analysis Date: **3/20/2020** SeqNo: **2326807** Units: **mg/Kg**

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

Sample ID: **LCS-51232** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **51232** RunNo: **67421**

Prep Date: **3/19/2020** Analysis Date: **3/20/2020** SeqNo: **2326808** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	90	110			

Sample ID: **MB-51239** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **51239** RunNo: **67448**

Prep Date: **3/20/2020** Analysis Date: **3/20/2020** SeqNo: **2328023** Units: **mg/Kg**

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

Sample ID: **LCS-51239** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **51239** RunNo: **67448**

Prep Date: **3/20/2020** Analysis Date: **3/20/2020** SeqNo: **2328024** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003671**

24-Mar-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **LCS-51100**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **51100**	RunNo: **67313**							
Prep Date: **3/13/2020**	Analysis Date: **3/17/2020**	SeqNo: **2321410**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		84.7	55.1	146			

Sample ID: **MB-51100**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51100**	RunNo: **67313**							
Prep Date: **3/13/2020**	Analysis Date: **3/17/2020**	SeqNo: **2321412**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.0		10.00		90.4	55.1	146			

Sample ID: **LCS-51123**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **51123**	RunNo: **67313**							
Prep Date: **3/16/2020**	Analysis Date: **3/18/2020**	SeqNo: **2323089**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.9	70	130			
Surr: DNOP	4.1		5.000		82.0	55.1	146			

Sample ID: **MB-51123**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51123**	RunNo: **67313**							
Prep Date: **3/16/2020**	Analysis Date: **3/18/2020**	SeqNo: **2323090**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.2	55.1	146			

Sample ID: **LCS-51152**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **51152**	RunNo: **67313**							
Prep Date: **3/17/2020**	Analysis Date: **3/19/2020**	SeqNo: **2325138**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.6	70	130			
Surr: DNOP	4.1		5.000		81.4	55.1	146			

Sample ID: **MB-51152**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51152**	RunNo: **67313**							
Prep Date: **3/17/2020**	Analysis Date: **3/19/2020**	SeqNo: **2325139**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003671**
24-Mar-20

Client: Devon Energy
Project: Cotton Draw Unit 205 H

Sample ID: **MB-51152** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **51152** RunNo: **67313**
Prep Date: **3/17/2020** Analysis Date: **3/19/2020** SeqNo: **2325139** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		91.7	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003671**

24-Mar-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **mb-51119**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **51119**	RunNo: **67350**
Prep Date: **3/16/2020**	Analysis Date: **3/18/2020**	SeqNo: **2322850** 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	740		1000		73.7	66.6	105			

Sample ID: **lcs-51119**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51119**	RunNo: **67350**
Prep Date: **3/16/2020**	Analysis Date: **3/18/2020**	SeqNo: **2322851** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.9	80	120			
Surr: BFB	860		1000		86.3	66.6	105			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003671**

24-Mar-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **mb-51119** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **51119** RunNo: **67350**

Prep Date: **3/16/2020** Analysis Date: **3/18/2020** SeqNo: **2322879** 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	0.88		1.000		88.4	80	120			

Sample ID: **LCS-51119** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **51119** RunNo: **67350**

Prep Date: **3/16/2020** Analysis Date: **3/18/2020** SeqNo: **2322880** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.6	80	120			
Toluene	0.95	0.050	1.000	0	95.1	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.6	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.0	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003671**

24-Mar-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **2003671-011AMS** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BH20-06 1'** Batch ID: **51122** RunNo: **67409**

Prep Date: **3/16/2020** Analysis Date: **3/19/2020** SeqNo: **2324928** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	0.9940	0	86.8	70	130			
Toluene	1.0	0.050	0.9940	0	102	70	130			
Ethylbenzene	1.1	0.050	0.9940	0	106	70	130			
Xylenes, Total	3.2	0.099	2.982	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.4970		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.4970		93.4	70	130			
Surr: Dibromofluoromethane	0.47		0.4970		94.8	70	130			
Surr: Toluene-d8	0.51		0.4970		102	70	130			

Sample ID: **2003671-011AMSD** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BH20-06 1'** Batch ID: **51122** RunNo: **67409**

Prep Date: **3/16/2020** Analysis Date: **3/19/2020** SeqNo: **2324929** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	0.9804	0	85.6	70	130	2.72	20	
Toluene	1.0	0.049	0.9804	0	102	70	130	1.09	20	
Ethylbenzene	1.0	0.049	0.9804	0	106	70	130	1.17	0	
Xylenes, Total	3.1	0.098	2.941	0	105	70	130	2.06	0	
Surr: 1,2-Dichloroethane-d4	0.45		0.4902		91.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4902		100	70	130	0	0	
Surr: Dibromofluoromethane	0.46		0.4902		93.2	70	130	0	0	
Surr: Toluene-d8	0.50		0.4902		103	70	130	0	0	

Sample ID: **lcs-51122** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **LCSS** Batch ID: **51122** RunNo: **67409**

Prep Date: **3/16/2020** Analysis Date: **3/18/2020** SeqNo: **2324955** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.4	70	130			
Toluene	1.1	0.050	1.000	0	107	70	130			
Ethylbenzene	1.1	0.050	1.000	0	109	70	130			
Xylenes, Total	3.3	0.10	3.000	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.4	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		95.7	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003671**
24-Mar-20

Client: Devon Energy
Project: Cotton Draw Unit 205 H

Sample ID: **mb-51122** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **51122** RunNo: **67409**
Prep Date: **3/16/2020** Analysis Date: **3/18/2020** SeqNo: **2324956** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.1	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.5	70	130			
Surr: Toluene-d8	0.52		0.5000		103	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003671**

24-Mar-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **lcs-51122**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51122**	RunNo: **67409**
Prep Date: **3/16/2020**	Analysis Date: **3/18/2020**	SeqNo: **2325012** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.3	70	130			
Surr: BFB	500		500.0		100	70	130			

Sample ID: **mb-51122**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **51122**	RunNo: **67409**
Prep Date: **3/16/2020**	Analysis Date: **3/18/2020**	SeqNo: **2325013** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	490		500.0		98.4	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **DEVON ENERGY** Work Order Number: **2003671** RcptNo: 1

Received By: **Erin Melendrez** **3/14/2020 8:15:00 AM**

Completed By: **Erin Melendrez** **3/14/2020 9:33:46 AM**

Reviewed By: JR 3/16/20

Chain of Custody

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

Log In

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

IO

# of preserved bottles checked for pH: 03/16/20 (<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.5	Good				

Chain-of-Custody Record

Client: Devon

Amanda Davis / Wes Mathews

Mailing Address: 6488 Seven Rivers Hwy

Artesia, NM 8820

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☑ Standard ☐ Rush

Project Name: Cotton Draw Unit 205H

Project #: 205-00141

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.4+0.1(CF)=4.5(°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2003671	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/12	9:30	Soil	BH20-01 4'	4 oz	ice	-001	✓	✓					✓			
	9:35		BH20-01 6'			-002	✓	✓					✓			
	9:45		BH20-02 1.5'			-003	✓	✓					✓			
	9:50		BH20-02 3.5'			-004	✓	✓					✓			
	10:00		BH20-03 1.5'			-005	✓	✓					✓			
	10:05		BH20-03 3.5'			-006	✓	✓					✓			
	10:40		BH20-05 0'			-007	✓	✓					✓			
	10:45		BH20-05 2'			-008	✓	✓					✓			
	10:50		BH20-05 4'			-009	PLEASE HOLD									
	11:00		BH20-06 0'			-010	✓	✓					✓			
	11:05		BH20-06 1'			-011	✓	✓					✓			
			[illegible]													

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3/13	1200				3/13	1420
3/13	1900			Courier	3/14/20	0815

Remarks: Direct bill Devon

CC: Natalie Gordon

w/o #: 20843795

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

Chain-of-Custody Record

Client: Devon

Amanda Davis/Wes Mathews

Mailing Address: 6488 Seven Rivers Hwy

Artesia, NM 88220

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☑ Standard ☐ Rush

Project Name: Cotton Draw Unit 205H

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.4+0.1(CF)=4.5(°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No 2003671	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/12	10:15	Soil	BH20-04 1'	4oz	ice	-012	✓	✓					✓			
	10:20		BH20-04 3'			-013	✓	✓					✓			
	10:25		BH20-04 6'			-014	✓	✓					✓			
	10:30		BH20-04 8'			-015	✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
3/13	1200				3/13	1420
3/13	1900			Courier	3/14/20	0815

Remarks: CC: Natalie Gordon

Direct bill

Devon

W/O #: 20843795

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 01, 2020

Amanda Davis

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

RE: Cotton Draw Unit 205 H OrderNo.: 2003760

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 16 sample(s) on 3/17/2020 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued March 25, 2020.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-001 **Matrix:** SOIL

Client Sample ID: BH20-08 0.5'
Collection Date: 3/13/2020 9:15:00 AM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	20000	910		mg/Kg	100	3/19/2020 9:23:34 PM
Motor Oil Range Organics (MRO)	5700	4500		mg/Kg	100	3/19/2020 9:23:34 PM
Surr: DNOP	0	55.1-146	S	%Rec	100	3/19/2020 9:23:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	1400	240		mg/Kg	50	3/20/2020 8:58:57 PM
Surr: BFB	214	66.6-105	S	%Rec	50	3/20/2020 8:58:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1.1	0.98		mg/Kg	50	3/20/2020 8:58:57 PM
Toluene	18	2.4		mg/Kg	50	3/20/2020 8:58:57 PM
Ethylbenzene	12	2.4		mg/Kg	50	3/20/2020 8:58:57 PM
Xylenes, Total	95	4.9		mg/Kg	50	3/20/2020 8:58:57 PM
Surr: 4-Bromofluorobenzene	117	80-120		%Rec	50	3/20/2020 8:58:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	89	60		mg/Kg	20	3/23/2020 1:23:58 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-002 **Matrix:** SOIL

Client Sample ID: BH20-08 1'
Collection Date: 3/13/2020 9:20:00 AM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/19/2020 9:47:35 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/19/2020 9:47:35 PM
Surr: DNOP	89.8	55.1-146		%Rec	1	3/19/2020 9:47:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/20/2020 9:22:37 PM
Surr: BFB	95.3	66.6-105		%Rec	1	3/20/2020 9:22:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/20/2020 9:22:37 PM
Toluene	ND	0.046		mg/Kg	1	3/20/2020 9:22:37 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/20/2020 9:22:37 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/20/2020 9:22:37 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	3/20/2020 9:22:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/23/2020 2:25:42 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-004 **Matrix:** SOIL

Client Sample ID: BH20-09 0'
Collection Date: 3/13/2020 9:45:00 AM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	820	9.6		mg/Kg	1	3/19/2020 10:11:30 PM
Motor Oil Range Organics (MRO)	500	48		mg/Kg	1	3/19/2020 10:11:30 PM
Surr: DNOP	104	55.1-146		%Rec	1	3/19/2020 10:11:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/20/2020 10:33:42 PM
Surr: BFB	99.2	66.6-105		%Rec	1	3/20/2020 10:33:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/20/2020 10:33:42 PM
Toluene	ND	0.047		mg/Kg	1	3/20/2020 10:33:42 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/20/2020 10:33:42 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/20/2020 10:33:42 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/20/2020 10:33:42 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	78	60		mg/Kg	20	3/23/2020 2:38:02 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-005 **Matrix:** SOIL

Client Sample ID: BH20-10 0'
Collection Date: 3/13/2020 10:55:00 AM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	33000	480		mg/Kg	50	3/19/2020 10:35:32 PM
Motor Oil Range Organics (MRO)	14000	2400		mg/Kg	50	3/19/2020 10:35:32 PM
Surr: DNOP	0	55.1-146	S	%Rec	50	3/19/2020 10:35:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	570	24		mg/Kg	5	3/21/2020 12:55:38 AM
Surr: BFB	631	66.6-105	S	%Rec	5	3/21/2020 12:55:38 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.25	0.12		mg/Kg	5	3/21/2020 12:55:38 AM
Toluene	5.2	0.24		mg/Kg	5	3/21/2020 12:55:38 AM
Ethylbenzene	4.0	0.24		mg/Kg	5	3/21/2020 12:55:38 AM
Xylenes, Total	37	0.49		mg/Kg	5	3/21/2020 12:55:38 AM
Surr: 4-Bromofluorobenzene	158	80-120	S	%Rec	5	3/21/2020 12:55:38 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	240	60		mg/Kg	20	3/23/2020 2:50:23 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-006 **Matrix:** SOIL

Client Sample ID: BH20-10 1'
Collection Date: 3/13/2020 11:05:00 AM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	120	9.8		mg/Kg	1	3/19/2020 10:59:26 PM
Motor Oil Range Organics (MRO)	68	49		mg/Kg	1	3/19/2020 10:59:26 PM
Surr: DNOP	92.6	55.1-146		%Rec	1	3/19/2020 10:59:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/21/2020 1:19:15 AM
Surr: BFB	106	66.6-105	S	%Rec	1	3/21/2020 1:19:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/21/2020 1:19:15 AM
Toluene	ND	0.046		mg/Kg	1	3/21/2020 1:19:15 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/21/2020 1:19:15 AM
Xylenes, Total	ND	0.092		mg/Kg	1	3/21/2020 1:19:15 AM
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	3/21/2020 1:19:15 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	75	60		mg/Kg	20	3/23/2020 3:02:44 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-008 **Matrix:** SOIL

Client Sample ID: BH20-12 2'
Collection Date: 3/13/2020 12:25:00 PM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/19/2020 11:23:27 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/19/2020 11:23:27 PM
Surr: DNOP	89.9	55.1-146		%Rec	1	3/19/2020 11:23:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/21/2020 1:42:54 AM
Surr: BFB	95.4	66.6-105		%Rec	1	3/21/2020 1:42:54 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/21/2020 1:42:54 AM
Toluene	ND	0.047		mg/Kg	1	3/21/2020 1:42:54 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/21/2020 1:42:54 AM
Xylenes, Total	ND	0.094		mg/Kg	1	3/21/2020 1:42:54 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/21/2020 1:42:54 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	7900	300		mg/Kg	100	3/24/2020 2:19:23 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-010 **Matrix:** SOIL

Client Sample ID: BH20-13 0'
Collection Date: 3/13/2020 12:45:00 PM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	18000	470		mg/Kg	50	3/19/2020 11:47:16 PM
Motor Oil Range Organics (MRO)	8400	2300		mg/Kg	50	3/19/2020 11:47:16 PM
Surr: DNOP	0	55.1-146	S	%Rec	50	3/19/2020 11:47:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	200	4.9		mg/Kg	1	3/21/2020 2:06:33 AM
Surr: BFB	945	66.6-105	S	%Rec	1	3/21/2020 2:06:33 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.062	0.025		mg/Kg	1	3/21/2020 2:06:33 AM
Toluene	2.1	0.049		mg/Kg	1	3/21/2020 2:06:33 AM
Ethylbenzene	1.1	0.049		mg/Kg	1	3/21/2020 2:06:33 AM
Xylenes, Total	8.9	0.098		mg/Kg	1	3/21/2020 2:06:33 AM
Surr: 4-Bromofluorobenzene	168	80-120	S	%Rec	1	3/21/2020 2:06:33 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	730	60		mg/Kg	20	3/23/2020 3:27:25 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-011 **Matrix:** SOIL

Client Sample ID: BH20-13 1'
Collection Date: 3/13/2020 12:55:00 PM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/20/2020 12:11:18 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/20/2020 12:11:18 AM
Surr: DNOP	87.9	55.1-146		%Rec	1	3/20/2020 12:11:18 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/21/2020 2:30:05 AM
Surr: BFB	101	66.6-105		%Rec	1	3/21/2020 2:30:05 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/21/2020 2:30:05 AM
Toluene	ND	0.048		mg/Kg	1	3/21/2020 2:30:05 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/21/2020 2:30:05 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/21/2020 2:30:05 AM
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	3/21/2020 2:30:05 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	370	60		mg/Kg	20	3/23/2020 3:39:46 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-012 **Matrix:** SOIL

Client Sample ID: BH20-14 0
Collection Date: 3/13/2020 1:30:00 PM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	5600	500		mg/Kg	50	3/20/2020 12:35:06 AM
Motor Oil Range Organics (MRO)	3000	2500		mg/Kg	50	3/20/2020 12:35:06 AM
Surr: DNOP	0	55.1-146	S	%Rec	50	3/20/2020 12:35:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/21/2020 2:53:38 AM
Surr: BFB	122	66.6-105	S	%Rec	1	3/21/2020 2:53:38 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/21/2020 2:53:38 AM
Toluene	ND	0.047		mg/Kg	1	3/21/2020 2:53:38 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/21/2020 2:53:38 AM
Xylenes, Total	0.12	0.093		mg/Kg	1	3/21/2020 2:53:38 AM
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	3/21/2020 2:53:38 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/23/2020 3:52:07 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH20-14 1'
Project: Cotton Draw Unit 205 H
Collection Date: 3/13/2020 1:40:00 PM
Lab ID: 2003760-013 **Matrix:** SOIL
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/28/2020 5:48:44 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/28/2020 5:48:44 PM
Surr: DNOP	87.3	55.1-146		%Rec	1	3/28/2020 5:48:44 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	120	60		mg/Kg	20	3/29/2020 12:29:37 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	3/27/2020 12:40:57 PM
Toluene	ND	0.049		mg/Kg	1	3/27/2020 12:40:57 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2020 12:40:57 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/27/2020 12:40:57 PM
Surr: 1,2-Dichloroethane-d4	94.7	70-130		%Rec	1	3/27/2020 12:40:57 PM
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	3/27/2020 12:40:57 PM
Surr: Dibromofluoromethane	98.7	70-130		%Rec	1	3/27/2020 12:40:57 PM
Surr: Toluene-d8	105	70-130		%Rec	1	3/27/2020 12:40:57 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2020 12:40:57 PM
Surr: BFB	95.7	70-130		%Rec	1	3/27/2020 12:40:57 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-014 **Matrix:** SOIL

Client Sample ID: BH20-15 0'
Collection Date: 3/13/2020 2:10:00 PM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	6100	470		mg/Kg	50	3/20/2020 12:59:06 AM
Motor Oil Range Organics (MRO)	3400	2300		mg/Kg	50	3/20/2020 12:59:06 AM
Surr: DNOP	0	55.1-146	S	%Rec	50	3/20/2020 12:59:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/21/2020 3:17:08 AM
Surr: BFB	119	66.6-105	S	%Rec	1	3/21/2020 3:17:08 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/21/2020 3:17:08 AM
Toluene	ND	0.047		mg/Kg	1	3/21/2020 3:17:08 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/21/2020 3:17:08 AM
Xylenes, Total	0.27	0.095		mg/Kg	1	3/21/2020 3:17:08 AM
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	3/21/2020 3:17:08 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	68	60		mg/Kg	20	3/23/2020 4:29:09 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003760**
Date Reported: **4/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205 H
Lab ID: 2003760-015 **Matrix:** SOIL

Client Sample ID: BH20-15 1'
Collection Date: 3/13/2020 2:20:00 PM
Received Date: 3/17/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/20/2020 1:22:57 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/20/2020 1:22:57 AM
Surr: DNOP	96.8	55.1-146		%Rec	1	3/20/2020 1:22:57 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/21/2020 3:40:37 AM
Surr: BFB	95.6	66.6-105		%Rec	1	3/21/2020 3:40:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/21/2020 3:40:37 AM
Toluene	ND	0.049		mg/Kg	1	3/21/2020 3:40:37 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/21/2020 3:40:37 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/21/2020 3:40:37 AM
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	3/21/2020 3:40:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	490	60		mg/Kg	20	3/23/2020 4:41:30 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003760**

01-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **MB-51261**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51261**	RunNo: **67496**							
Prep Date: **3/23/2020**	Analysis Date: **3/23/2020**	SeqNo: **2330680**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51261**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51261**	RunNo: **67496**							
Prep Date: **3/23/2020**	Analysis Date: **3/23/2020**	SeqNo: **2330682**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	90	110			

Sample ID: **MB-51388**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51388**	RunNo: **67692**							
Prep Date: **3/29/2020**	Analysis Date: **3/29/2020**	SeqNo: **2337003**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51388**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51388**	RunNo: **67692**							
Prep Date: **3/29/2020**	Analysis Date: **3/29/2020**	SeqNo: **2337004**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003760**

01-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **LCS-51100**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51100**	RunNo: **67313**
Prep Date: **3/13/2020**	Analysis Date: **3/17/2020**	SeqNo: **2321410** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		84.7	55.1	146			

Sample ID: **MB-51100**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51100**	RunNo: **67313**
Prep Date: **3/13/2020**	Analysis Date: **3/17/2020**	SeqNo: **2321412** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.0		10.00		90.4	55.1	146			

Sample ID: **LCS-51188**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51188**	RunNo: **67313**
Prep Date: **3/18/2020**	Analysis Date: **3/19/2020**	SeqNo: **2326278** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.9	70	130			
Surr: DNOP	4.0		5.000		79.7	55.1	146			

Sample ID: **MB-51188**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51188**	RunNo: **67313**
Prep Date: **3/18/2020**	Analysis Date: **3/19/2020**	SeqNo: **2326280** 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	8.4		10.00		84.5	55.1	146			

Sample ID: **LCS-51366**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51366**	RunNo: **67639**
Prep Date: **3/27/2020**	Analysis Date: **3/28/2020**	SeqNo: **2335653** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	70	130			
Surr: DNOP	4.4		5.000		87.9	55.1	146			

Sample ID: **MB-51366**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51366**	RunNo: **67639**
Prep Date: **3/27/2020**	Analysis Date: **3/28/2020**	SeqNo: **2335654** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003760**

01-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **MB-51366**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51366**	RunNo: **67639**
Prep Date: **3/27/2020**	Analysis Date: **3/28/2020**	SeqNo: **2335654** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		90.1	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003760**

01-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **2003760-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH20-08 1'**	Batch ID: **51182**	RunNo: **67472**
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328296** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.7	23.72	0	89.6	69.1	142			
Surr: BFB	1000		948.8		105	66.6	105			

Sample ID: **2003760-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH20-08 1'**	Batch ID: **51182**	RunNo: **67472**
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328297** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	24.08	0	92.7	69.1	142	4.91	20	
Surr: BFB	1100		963.4		109	66.6	105	0	0	S

Sample ID: **lcs-51182**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51182**	RunNo: **67472**
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328314** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.0	80	120			
Surr: BFB	1100		1000		111	66.6	105			S

Sample ID: **mb-51182**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **51182**	RunNo: **67472**
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328315** 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	970		1000		96.6	66.6	105			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003760**

01-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **mb-51182**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **51182**	RunNo: **67472**
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328730** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID: **LCS-51182**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **51182**	RunNo: **67472**
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2328731** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.1	80	120			
Toluene	0.91	0.050	1.000	0	90.9	80	120			
Ethylbenzene	0.91	0.050	1.000	0	90.7	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.1	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003760**

01-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **mb-51360**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **51360**	RunNo: **67627**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335340** 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	0.48		0.5000		95.5	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		95.8	70	130			
Surr: Toluene-d8	0.53		0.5000		107	70	130			

Sample ID: **lcs-51360**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **51360**	RunNo: **67627**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335341** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	87.6	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			

Sample ID: **2003760-013ams**	SampType: **MS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BH20-14 1'**	Batch ID: **51360**	RunNo: **67627**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335344** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9699	0	92.9	80	120			
Toluene	1.1	0.048	0.9699	0	111	80	120			
Ethylbenzene	1.1	0.048	0.9699	0	111	80	120			
Xylenes, Total	3.2	0.097	2.910	0	111	80	120			
Surr: 4-Bromofluorobenzene	0.49		0.4850		100	70	130			
Surr: Toluene-d8	0.51		0.4850		105	70	130			

Sample ID: **2003760-013amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BH20-14 1'**	Batch ID: **51360**	RunNo: **67627**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335345** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	0.9872	0	89.0	80	120			
Toluene	1.1	0.049	0.9872	0	111	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003760**

01-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **2003760-013amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BH20-14 1'**	Batch ID: **51360**	RunNo: **67627**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335345** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	1.1	0.049	0.9872	0	113	80	120			
Xylenes, Total	3.4	0.099	2.962	0	115	80	120			
Surr: 4-Bromofluorobenzene	0.51		0.4936		103	70	130			
Surr: Toluene-d8	0.52		0.4936		105	70	130			

Sample ID: **mb-51381**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **51381**	RunNo: **67657**
Prep Date: **3/27/2020**	Analysis Date: **3/29/2020**	SeqNo: **2335869** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.5	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.9	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.3	70	130			
Surr: Toluene-d8	0.52		0.5000		105	70	130			

Sample ID: **lcs-51381**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **51381**	RunNo: **67657**
Prep Date: **3/27/2020**	Analysis Date: **3/29/2020**	SeqNo: **2335870** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.5	70	130			
Surr: Toluene-d8	0.53		0.5000		106	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003760**

01-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205 H

Sample ID: **mb-51360**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **51360**	RunNo: **67627**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335364** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	490		500.0		98.1	70	130			

Sample ID: **lcs-51360**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51360**	RunNo: **67627**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335365** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	79.9	70	130			
Surr: BFB	500		500.0		101	70	130			

Sample ID: **mb-51381**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **51381**	RunNo: **67657**
Prep Date: **3/27/2020**	Analysis Date: **3/29/2020**	SeqNo: **2335906** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	500		500.0		100	70	130			

Sample ID: **lcs-51381**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51381**	RunNo: **67657**
Prep Date: **3/27/2020**	Analysis Date: **3/29/2020**	SeqNo: **2335907** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	470		500.0		94.7	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **DEVON ENERGY** Work Order Number: **2003760** RcptNo: **1**

Received By: **Juan Rojas** **3/17/2020 8:20:00 AM**

Completed By: **Juan Rojas** **3/17/2020 11:27:19 AM**

Reviewed By: JR 3/17/20

Chain of Custody

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

Log In

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

TO

# of preserved bottles checked for pH: 3/17/20

(<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good				
2	4.5	Good				
3	1.0	Good				
4	1.8	Good				

Chain-of-Custody Record

Client: Devon

Amanda Davis / Wes Mathews

Mailing Address: 6488 Seven Rivers Hwy

Artesia, NM 88210

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☑ Standard ☐ Rush

Project Name: Cotton Draw Unit #205H

Project #: 20E-00141-042

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 4

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2003760	(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl) F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/13	9:15	Soil	BH20-08 0.5'	4oz	ice	-001	✓	✓					✓			
	9:20		BH20-08 1'			-002	✓	✓					✓			
	9:25		BH20-08 2'			-003	PLEASE HOLD									
	9:45		BH20-09 0'			-004	✓	✓					✓			
	10:55		BH20-10 0'			-005	✓	✓					✓			
	11:05		BH20-10 1'			-006	✓	✓					✓			
	11:10		BH20-10 2'			-007	PLEASE HOLD									
	12:25		BH20-12 2'			-008	✓	✓					✓			
	12:35		BH20-12 4'			-009	PLEASE HOLD									
	12:45		BH20-13 0'			-010	✓	✓					✓			
	12:55		BH20-13 1'			-011	✓	✓					✓			
	11:30	✓	BH20-14 0'	✓	✓	-012	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3/15	1400				3/15	1400
3/16/20	1900			Courier	3/17/20	8:20

Remarks: Direct bill Devon

CC: Natalie Gordon

1.4+0.2 = 1.6

4.3+0.2 = 4.5

0.8+0.2 = 1.0

1.6+0.2 = 1.8

W/O #:

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

Chain-of-Custody Record

Client: Devon

Amanda Davis / Wes Mathews

Mailing Address: 6488 Seven Rivers Hwy

Artesia, NM 8820

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☑ Standard ☐ Rush

Project Name: Cotton Draw Unit #205H

Project #: 20E-00141-042

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 4

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2003760	(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/13	1:40	Soil	BH20-14 1'	4 oz	Ice	-013	P	L	E	A	S	E	H	O	L	D
↓	2:10	↓	BH20-15 0'	↓	↓	-014	✓	✓					✓			
	2:20		BH20-15 1'			-015	✓	✓					✓			
	2:25		BH20-15 2'			-016	P	L	E	A	S	E	H	O	L	D

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
3/15	1400				3/15	1400
3/16/20	1900			courier	3/17/20	8:20

Remarks: Direct bill Devon

cc: Natalie Gordon

1.4+0.2=1.6

4.3+0.2=4.5

0.8+0.2=1.0

1.6+0.2=1.8

W/O #:

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 29, 2020

Natalie Gordon

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

RE: Cotton Draw Unit 205H OrderNo.: 2004A52

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/24/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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 **2004A52**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H
Lab ID: 2004A52-001 **Matrix:** SOIL

Client Sample ID: SS20-01 0-0.5'
Collection Date: 4/22/2020 10:00:00 AM
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	14	9.8		mg/Kg	1	4/28/2020 10:12:59 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/28/2020 10:12:59 AM
Surr: DNOP	97.0	55.1-146		%Rec	1	4/28/2020 10:12:59 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 2:57:14 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 1:25:20 PM
Toluene	ND	0.049		mg/Kg	1	4/28/2020 1:25:20 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/28/2020 1:25:20 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/28/2020 1:25:20 PM
Surr: 1,2-Dichloroethane-d4	82.3	70-130		%Rec	1	4/28/2020 1:25:20 PM
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	4/28/2020 1:25:20 PM
Surr: Dibromofluoromethane	90.2	70-130		%Rec	1	4/28/2020 1:25:20 PM
Surr: Toluene-d8	94.6	70-130		%Rec	1	4/28/2020 1:25:20 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/28/2020 1:25:20 PM
Surr: BFB	98.1	70-130		%Rec	1	4/28/2020 1:25:20 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A52**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H
Lab ID: 2004A52-002 **Matrix:** SOIL

Client Sample ID: SS20-02 0-0.5'
Collection Date: 4/22/2020 10:10:00 AM
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	18	9.2		mg/Kg	1	4/28/2020 11:25:31 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/28/2020 11:25:31 AM
Surr: DNOP	88.0	55.1-146		%Rec	1	4/28/2020 11:25:31 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	64	60		mg/Kg	20	4/28/2020 3:34:26 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 1:53:51 PM
Toluene	ND	0.050		mg/Kg	1	4/28/2020 1:53:51 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/28/2020 1:53:51 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/28/2020 1:53:51 PM
Surr: 1,2-Dichloroethane-d4	77.0	70-130		%Rec	1	4/28/2020 1:53:51 PM
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	4/28/2020 1:53:51 PM
Surr: Dibromofluoromethane	88.1	70-130		%Rec	1	4/28/2020 1:53:51 PM
Surr: Toluene-d8	98.8	70-130		%Rec	1	4/28/2020 1:53:51 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/28/2020 1:53:51 PM
Surr: BFB	102	70-130		%Rec	1	4/28/2020 1:53:51 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A52**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H
Lab ID: 2004A52-003 **Matrix:** SOIL

Client Sample ID: SS20-03 0-0.5'
Collection Date: 4/22/2020 10:20:00 AM
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/28/2020 11:49:36 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/28/2020 11:49:36 AM
Surr: DNOP	97.9	55.1-146		%Rec	1	4/28/2020 11:49:36 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	75	60		mg/Kg	20	4/28/2020 3:46:50 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	4/28/2020 2:22:31 PM
Toluene	ND	0.049		mg/Kg	1	4/28/2020 2:22:31 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/28/2020 2:22:31 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/28/2020 2:22:31 PM
Surr: 1,2-Dichloroethane-d4	81.5	70-130		%Rec	1	4/28/2020 2:22:31 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/28/2020 2:22:31 PM
Surr: Dibromofluoromethane	90.7	70-130		%Rec	1	4/28/2020 2:22:31 PM
Surr: Toluene-d8	97.2	70-130		%Rec	1	4/28/2020 2:22:31 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/28/2020 2:22:31 PM
Surr: BFB	101	70-130		%Rec	1	4/28/2020 2:22:31 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A52**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: SS20-04 0-0.5'
Project: Cotton Draw Unit 205H
Collection Date: 4/22/2020 10:30:00 AM
Lab ID: 2004A52-004 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	12	9.2		mg/Kg	1	4/28/2020 12:14:02 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/28/2020 12:14:02 PM
Surr: DNOP	73.2	55.1-146		%Rec	1	4/28/2020 12:14:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	130	61		mg/Kg	20	4/28/2020 3:59:15 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 2:51:07 PM
Toluene	ND	0.050		mg/Kg	1	4/28/2020 2:51:07 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/28/2020 2:51:07 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/28/2020 2:51:07 PM
Surr: 1,2-Dichloroethane-d4	79.4	70-130		%Rec	1	4/28/2020 2:51:07 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/28/2020 2:51:07 PM
Surr: Dibromofluoromethane	87.9	70-130		%Rec	1	4/28/2020 2:51:07 PM
Surr: Toluene-d8	97.5	70-130		%Rec	1	4/28/2020 2:51:07 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/28/2020 2:51:07 PM
Surr: BFB	101	70-130		%Rec	1	4/28/2020 2:51:07 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A52**

29-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205H

Sample ID: **MB-52137**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **52137**	RunNo: **68494**							
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2370002**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-52137**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **52137**	RunNo: **68494**							
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2370003**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A52**

29-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205H

Sample ID: **2004A52-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **SS20-01 0-0.5'** Batch ID: **52108** RunNo: **68466**

Prep Date: **4/27/2020** Analysis Date: **4/28/2020** SeqNo: **2369163** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	220	9.5	47.57	14.17	434	47.4	136			S
Surr: DNOP	5.2		4.757		110	55.1	146			

Sample ID: **LCS-52108** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **52108** RunNo: **68466**

Prep Date: **4/27/2020** Analysis Date: **4/28/2020** SeqNo: **2369166** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	103	70	130			
Surr: DNOP	5.1		5.000		101	55.1	146			

Sample ID: **MB-52108** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **52108** RunNo: **68466**

Prep Date: **4/27/2020** Analysis Date: **4/28/2020** SeqNo: **2369167** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		99.8	55.1	146			

Sample ID: **2004A52-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **SS20-01 0-0.5'** Batch ID: **52108** RunNo: **68466**

Prep Date: **4/27/2020** Analysis Date: **4/28/2020** SeqNo: **2369922** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	49.80	14.17	74.0	47.4	136	125	43.4	R
Surr: DNOP	4.4		4.980		87.8	55.1	146	0	0	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A52**
29-Apr-20

Client: Devon Energy
Project: Cotton Draw Unit 205H

Sample ID: **mb-52087** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **52087** RunNo: **68461**
Prep Date: **4/25/2020** Analysis Date: **4/28/2020** SeqNo: **2368883** 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	0.39		0.5000		78.7	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.9	70	130			
Surr: Dibromofluoromethane	0.43		0.5000		86.8	70	130			
Surr: Toluene-d8	0.49		0.5000		97.8	70	130			

Sample ID: **lcs-52087** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **52087** RunNo: **68461**
Prep Date: **4/25/2020** Analysis Date: **4/28/2020** SeqNo: **2368884** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.5	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Ethylbenzene	1.0	0.050	1.000	0	102	70	130			
Xylenes, Total	3.1	0.10	3.000	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.5000		78.2	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.6	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		89.3	70	130			
Surr: Toluene-d8	0.48		0.5000		96.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A52**

29-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205H

Sample ID: **mb-52087**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **52087**	RunNo: **68461**
Prep Date: **4/25/2020**	Analysis Date: **4/28/2020**	SeqNo: **2368920** 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		99.1	70	130			

Sample ID: **lcs-52087**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **52087**	RunNo: **68461**
Prep Date: **4/25/2020**	Analysis Date: **4/28/2020**	SeqNo: **2368921** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.7	70	130			
Surr: BFB	500		500.0		100	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **DEVON ENERGY** Work Order Number: **2004A52** RcptNo: 1

Received By: **Juan Rojas** **4/24/2020 9:20:00 AM** Juan Rojas

Completed By: **Desiree Dominguez** **4/24/2020 10:29:43 AM** DD

Reviewed By: DAD 4/24/20

Chain of Custody

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

Log In

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

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

Adjusted?

Checked by: JR 4/24/20

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Not Present			

Chain-of-Custody Record

Client: Devon

A. Davis / W. Mathews

Mailing Address: 6488 Seven Rivers Hwy

Artesia, NM 88210

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☑ Standard ☐ Rush

Project Name: Cotton Draw Unit 205H

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MP

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.8-0=1.8 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004A52
4/22	10:00	Soil	SS20-01 0-0.5'	402	ice	-001
↓	10:10	↓	SS20-02 0-0.5'	↓	↓	-002
↓	10:20	↓	SS20-03 0-0.5'	↓	↓	-003
↓	10:30	↓	SS20-04 0-0.5'	↓	↓	-004

Analysis Request

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

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/23/20	1300				4/23/20	1300
4/23/20	1900			courier	4/24/20	9:20

Remarks: CC: Natalie Gordon

Direct bill

Devon

w/o#: MM-120483.11.WO

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 29, 2020

Amanda Davis

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

RE: Cotton Draw Unit 205H Pasture OrderNo.: 2004A54

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 9 sample(s) on 4/24/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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 **2004A54**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-01 8'
Project: Cotton Draw Unit 205H Pasture
Collection Date: 4/22/2020 11:30:00 AM
Lab ID: 2004A54-001 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/28/2020 12:38:02 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/28/2020 12:38:02 PM
Surr: DNOP	78.0	55.1-146		%Rec	1	4/28/2020 12:38:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 4:11:39 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 3:19:36 PM
Toluene	ND	0.050		mg/Kg	1	4/28/2020 3:19:36 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/28/2020 3:19:36 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/28/2020 3:19:36 PM
Surr: 1,2-Dichloroethane-d4	78.4	70-130		%Rec	1	4/28/2020 3:19:36 PM
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	4/28/2020 3:19:36 PM
Surr: Dibromofluoromethane	87.5	70-130		%Rec	1	4/28/2020 3:19:36 PM
Surr: Toluene-d8	96.0	70-130		%Rec	1	4/28/2020 3:19:36 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/28/2020 3:19:36 PM
Surr: BFB	98.6	70-130		%Rec	1	4/28/2020 3:19:36 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A54**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-02 3'
Project: Cotton Draw Unit 205H Pasture
Collection Date: 4/22/2020 12:00:00 PM
Lab ID: 2004A54-002 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/28/2020 1:02:25 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/28/2020 1:02:25 PM
Surr: DNOP	75.7	55.1-146		%Rec	1	4/28/2020 1:02:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 4:24:04 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	4/28/2020 3:48:10 PM
Toluene	ND	0.049		mg/Kg	1	4/28/2020 3:48:10 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/28/2020 3:48:10 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/28/2020 3:48:10 PM
Surr: 1,2-Dichloroethane-d4	79.2	70-130		%Rec	1	4/28/2020 3:48:10 PM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	4/28/2020 3:48:10 PM
Surr: Dibromofluoromethane	88.6	70-130		%Rec	1	4/28/2020 3:48:10 PM
Surr: Toluene-d8	93.9	70-130		%Rec	1	4/28/2020 3:48:10 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/28/2020 3:48:10 PM
Surr: BFB	95.0	70-130		%Rec	1	4/28/2020 3:48:10 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A54**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-03 3'
Project: Cotton Draw Unit 205H Pasture
Collection Date: 4/22/2020 12:10:00 PM
Lab ID: 2004A54-003 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	4/28/2020 1:26:30 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/28/2020 1:26:30 PM
Surr: DNOP	82.2	55.1-146		%Rec	1	4/28/2020 1:26:30 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 4:36:28 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 4:16:40 PM
Toluene	ND	0.049		mg/Kg	1	4/28/2020 4:16:40 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/28/2020 4:16:40 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/28/2020 4:16:40 PM
Surr: 1,2-Dichloroethane-d4	77.6	70-130		%Rec	1	4/28/2020 4:16:40 PM
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	4/28/2020 4:16:40 PM
Surr: Dibromofluoromethane	87.3	70-130		%Rec	1	4/28/2020 4:16:40 PM
Surr: Toluene-d8	98.5	70-130		%Rec	1	4/28/2020 4:16:40 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/28/2020 4:16:40 PM
Surr: BFB	98.6	70-130		%Rec	1	4/28/2020 4:16:40 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A54**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-04 2'
Project: Cotton Draw Unit 205H Pasture
Collection Date: 4/22/2020 1:00:00 PM
Lab ID: 2004A54-004 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	9.8	9.6		mg/Kg	1	4/28/2020 1:50:47 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/28/2020 1:50:47 PM
Surr: DNOP	93.7	55.1-146		%Rec	1	4/28/2020 1:50:47 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 4:48:52 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	4/28/2020 4:45:14 PM
Toluene	ND	0.048		mg/Kg	1	4/28/2020 4:45:14 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/28/2020 4:45:14 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/28/2020 4:45:14 PM
Surr: 1,2-Dichloroethane-d4	82.7	70-130		%Rec	1	4/28/2020 4:45:14 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/28/2020 4:45:14 PM
Surr: Dibromofluoromethane	90.7	70-130		%Rec	1	4/28/2020 4:45:14 PM
Surr: Toluene-d8	96.5	70-130		%Rec	1	4/28/2020 4:45:14 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/28/2020 4:45:14 PM
Surr: BFB	100	70-130		%Rec	1	4/28/2020 4:45:14 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A54**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-01 0-8'
Project: Cotton Draw Unit 205H Pasture
Collection Date: 4/22/2020 11:40:00 AM
Lab ID: 2004A54-005 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/28/2020 2:14:58 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/28/2020 2:14:58 PM
Surr: DNOP	80.1	55.1-146		%Rec	1	4/28/2020 2:14:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 5:26:05 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 5:13:42 PM
Toluene	ND	0.049		mg/Kg	1	4/28/2020 5:13:42 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/28/2020 5:13:42 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/28/2020 5:13:42 PM
Surr: 1,2-Dichloroethane-d4	79.2	70-130		%Rec	1	4/28/2020 5:13:42 PM
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	4/28/2020 5:13:42 PM
Surr: Dibromofluoromethane	88.9	70-130		%Rec	1	4/28/2020 5:13:42 PM
Surr: Toluene-d8	95.1	70-130		%Rec	1	4/28/2020 5:13:42 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/28/2020 5:13:42 PM
Surr: BFB	98.7	70-130		%Rec	1	4/28/2020 5:13:42 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A54**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-02 0-3'
Project: Cotton Draw Unit 205H Pasture
Collection Date: 4/22/2020 12:20:00 PM
Lab ID: 2004A54-006 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	13	9.9		mg/Kg	1	4/28/2020 2:39:07 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/28/2020 2:39:07 PM
Surr: DNOP	80.9	55.1-146		%Rec	1	4/28/2020 2:39:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 5:38:30 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 5:42:11 PM
Toluene	ND	0.050		mg/Kg	1	4/28/2020 5:42:11 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/28/2020 5:42:11 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/28/2020 5:42:11 PM
Surr: 1,2-Dichloroethane-d4	80.7	70-130		%Rec	1	4/28/2020 5:42:11 PM
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	4/28/2020 5:42:11 PM
Surr: Dibromofluoromethane	89.0	70-130		%Rec	1	4/28/2020 5:42:11 PM
Surr: Toluene-d8	94.6	70-130		%Rec	1	4/28/2020 5:42:11 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/28/2020 5:42:11 PM
Surr: BFB	98.1	70-130		%Rec	1	4/28/2020 5:42:11 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A54**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-03 0-3'
Project: Cotton Draw Unit 205H Pasture
Collection Date: 4/22/2020 12:30:00 PM
Lab ID: 2004A54-007 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/28/2020 3:03:21 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/28/2020 3:03:21 PM
Surr: DNOP	80.9	55.1-146		%Rec	1	4/28/2020 3:03:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 5:50:55 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 6:10:47 PM
Toluene	ND	0.050		mg/Kg	1	4/28/2020 6:10:47 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/28/2020 6:10:47 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/28/2020 6:10:47 PM
Surr: 1,2-Dichloroethane-d4	80.4	70-130		%Rec	1	4/28/2020 6:10:47 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/28/2020 6:10:47 PM
Surr: Dibromofluoromethane	89.0	70-130		%Rec	1	4/28/2020 6:10:47 PM
Surr: Toluene-d8	99.8	70-130		%Rec	1	4/28/2020 6:10:47 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/28/2020 6:10:47 PM
Surr: BFB	102	70-130		%Rec	1	4/28/2020 6:10:47 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A54**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-04 0-2'
Project: Cotton Draw Unit 205H Pasture
Collection Date: 4/22/2020 1:10:00 PM
Lab ID: 2004A54-008 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/28/2020 3:27:37 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/28/2020 3:27:37 PM
Surr: DNOP	84.6	55.1-146		%Rec	1	4/28/2020 3:27:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 6:03:19 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 6:39:17 PM
Toluene	ND	0.049		mg/Kg	1	4/28/2020 6:39:17 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/28/2020 6:39:17 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/28/2020 6:39:17 PM
Surr: 1,2-Dichloroethane-d4	78.2	70-130		%Rec	1	4/28/2020 6:39:17 PM
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	4/28/2020 6:39:17 PM
Surr: Dibromofluoromethane	91.4	70-130		%Rec	1	4/28/2020 6:39:17 PM
Surr: Toluene-d8	99.4	70-130		%Rec	1	4/28/2020 6:39:17 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/28/2020 6:39:17 PM
Surr: BFB	98.6	70-130		%Rec	1	4/28/2020 6:39:17 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004A54**
Date Reported: **4/29/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-05 0-2'
Project: Cotton Draw Unit 205H Pasture
Collection Date: 4/22/2020 1:20:00 PM
Lab ID: 2004A54-009 **Matrix:** SOIL
Received Date: 4/24/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/28/2020 3:51:44 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/28/2020 3:51:44 PM
Surr: DNOP	84.1	55.1-146		%Rec	1	4/28/2020 3:51:44 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/28/2020 6:15:44 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/28/2020 7:07:46 PM
Toluene	ND	0.049		mg/Kg	1	4/28/2020 7:07:46 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/28/2020 7:07:46 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/28/2020 7:07:46 PM
Surr: 1,2-Dichloroethane-d4	77.6	70-130		%Rec	1	4/28/2020 7:07:46 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/28/2020 7:07:46 PM
Surr: Dibromofluoromethane	88.4	70-130		%Rec	1	4/28/2020 7:07:46 PM
Surr: Toluene-d8	97.6	70-130		%Rec	1	4/28/2020 7:07:46 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/28/2020 7:07:46 PM
Surr: BFB	101	70-130		%Rec	1	4/28/2020 7:07:46 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A54**

29-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pasture

Sample ID: **MB-52137**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **52137**	RunNo: **68494**							
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2370002**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-52137**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **52137**	RunNo: **68494**							
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2370003**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A54**
29-Apr-20

Client: Devon Energy
Project: Cotton Draw Unit 205H Pasture

Sample ID: **LCS-52108** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **52108** RunNo: **68466**
Prep Date: **4/27/2020** Analysis Date: **4/28/2020** SeqNo: **2369166** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	103	70	130			
Surr: DNOP	5.1		5.000		101	55.1	146			

Sample ID: **MB-52108** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **52108** RunNo: **68466**
Prep Date: **4/27/2020** Analysis Date: **4/28/2020** SeqNo: **2369167** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		99.8	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A54**
29-Apr-20

Client: Devon Energy
Project: Cotton Draw Unit 205H Pasture

Sample ID: **mb-52087** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **52087** RunNo: **68461**
Prep Date: **4/25/2020** Analysis Date: **4/28/2020** SeqNo: **2368883** 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	0.39		0.5000		78.7	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.9	70	130			
Surr: Dibromofluoromethane	0.43		0.5000		86.8	70	130			
Surr: Toluene-d8	0.49		0.5000		97.8	70	130			

Sample ID: **lcs-52087** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **52087** RunNo: **68461**
Prep Date: **4/25/2020** Analysis Date: **4/28/2020** SeqNo: **2368884** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.5	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Ethylbenzene	1.0	0.050	1.000	0	102	70	130			
Xylenes, Total	3.1	0.10	3.000	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.5000		78.2	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.6	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		89.3	70	130			
Surr: Toluene-d8	0.48		0.5000		96.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A54**

29-Apr-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pasture

Sample ID: **mb-52087** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **52087** RunNo: **68461**

Prep Date: **4/25/2020** Analysis Date: **4/28/2020** SeqNo: **2368920** 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		99.1	70	130			

Sample ID: **lcs-52087** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **LCSS** Batch ID: **52087** RunNo: **68461**

Prep Date: **4/25/2020** Analysis Date: **4/28/2020** SeqNo: **2368921** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.7	70	130			
Surr: BFB	500		500.0		100	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: DEVON ENERGY Work Order Number: 2004A54 RcptNo: 1

Received By: Juan Rojas 4/24/2020 9:20:00 AM

Completed By: Desiree Dominguez 4/24/2020 10:32:37 AM

Reviewed By: DAD 4/24/20

Chain of Custody

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

Log In

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

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

Adjusted?

Checked by: JR 4/24/20

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Not Present			

Chain-of-Custody Record

Client: Devon

A. Davis / W. Mathews

Mailing Address: 6488 Swan Rivers Hwy

Artesia, NM 88210

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☑ Standard ☐ Rush

Project Name: Cotton Draw Unit 205H (Pasture)

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.8-0=1.8 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004A54	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/22	11:30	Soil	BS20-01 8'	402	ice	-001	✓	✓					✓			
	12:00		BS20-02 3'			-002	✓	✓					✓			
	12:10		BS20-03 3'			-003	✓	✓					✓			
	1:00		BS20-04 2'			-004	✓	✓					✓			
	11:40		WS20-01 0-8			-005	✓	✓					✓			
	12:20		WS20-02 0-3'			-006	✓	✓					✓			
	12:30		WS20-03 0-3'			-007	✓	✓					✓			
	1:10		WS20-04 0-2'			-008	✓	✓					✓			
	1:20		WS20-05 0-2'			-009	✓	✓					✓			

Analysis Request

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/23/20	1300				4/23/20	1300
4/23/20	1900			courier	4/24/20	9:20

Remarks: Direct bill Devon CC: Natalie Gordon

w/o#: MM-120483.11.WWO

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 05, 2020

Amanda Davis

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

RE: Cotton Draw Unit 205H Pad OrderNo.: 2004B28

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 58 sample(s) on 4/28/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-001 **Matrix:** SOIL

Client Sample ID: BS20-05 3.5'
Collection Date: 4/23/2020 10:30:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	490	9.9		mg/Kg	1	4/29/2020 4:49:16 PM
Motor Oil Range Organics (MRO)	200	50		mg/Kg	1	4/29/2020 4:49:16 PM
Surr: DNOP	83.5	55.1-146		%Rec	1	4/29/2020 4:49:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/29/2020 9:42:20 PM
Surr: BFB	127	66.6-105	S	%Rec	1	4/29/2020 9:42:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	4/29/2020 9:42:20 PM
Toluene	ND	0.047		mg/Kg	1	4/29/2020 9:42:20 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/29/2020 9:42:20 PM
Xylenes, Total	ND	0.094		mg/Kg	1	4/29/2020 9:42:20 PM
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	4/29/2020 9:42:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	250	60		mg/Kg	20	5/1/2020 2:19:21 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-002 **Matrix:** SOIL

Client Sample ID: BS20-06 0.5'
Collection Date: 4/24/2020 10:00:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	270	9.6		mg/Kg	1	4/29/2020 5:13:28 PM
Motor Oil Range Organics (MRO)	190	48		mg/Kg	1	4/29/2020 5:13:28 PM
Surr: DNOP	87.9	55.1-146		%Rec	1	4/29/2020 5:13:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/29/2020 10:06:05 PM
Surr: BFB	104	66.6-105		%Rec	1	4/29/2020 10:06:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/29/2020 10:06:05 PM
Toluene	ND	0.049		mg/Kg	1	4/29/2020 10:06:05 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/29/2020 10:06:05 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/29/2020 10:06:05 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/29/2020 10:06:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	160	60		mg/Kg	20	5/1/2020 2:31:43 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-07 1'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 10:10:00 AM
Lab ID: 2004B28-003 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	140	10		mg/Kg	1	4/29/2020 5:37:34 PM
Motor Oil Range Organics (MRO)	95	50		mg/Kg	1	4/29/2020 5:37:34 PM
Surr: DNOP	84.5	55.1-146		%Rec	1	4/29/2020 5:37:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/29/2020 10:29:48 PM
Surr: BFB	103	66.6-105		%Rec	1	4/29/2020 10:29:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/29/2020 10:29:48 PM
Toluene	ND	0.048		mg/Kg	1	4/29/2020 10:29:48 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/29/2020 10:29:48 PM
Xylenes, Total	ND	0.095		mg/Kg	1	4/29/2020 10:29:48 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	4/29/2020 10:29:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	390	60		mg/Kg	20	5/1/2020 3:08:44 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-004 **Matrix:** SOIL

Client Sample ID: BS20-08 0.5'
Collection Date: 4/24/2020 11:00:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/29/2020 6:01:59 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/29/2020 6:01:59 PM
Surr: DNOP	82.9	55.1-146		%Rec	1	4/29/2020 6:01:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/29/2020 10:53:34 PM
Surr: BFB	103	66.6-105		%Rec	1	4/29/2020 10:53:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/29/2020 10:53:34 PM
Toluene	ND	0.048		mg/Kg	1	4/29/2020 10:53:34 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/29/2020 10:53:34 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/29/2020 10:53:34 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/29/2020 10:53:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	5/1/2020 3:21:04 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-005 **Matrix:** SOIL

Client Sample ID: BS20-09 0.5'
Collection Date: 4/24/2020 11:05:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	69	9.9		mg/Kg	1	4/29/2020 6:26:19 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/29/2020 6:26:19 PM
Surr: DNOP	86.1	55.1-146		%Rec	1	4/29/2020 6:26:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/29/2020 11:17:26 PM
Surr: BFB	101	66.6-105		%Rec	1	4/29/2020 11:17:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	4/29/2020 11:17:26 PM
Toluene	ND	0.050		mg/Kg	1	4/29/2020 11:17:26 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/29/2020 11:17:26 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/29/2020 11:17:26 PM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	4/29/2020 11:17:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	170	60		mg/Kg	20	5/1/2020 3:33:25 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-006 **Matrix:** SOIL

Client Sample ID: BS20-10 0.5'
Collection Date: 4/24/2020 11:10:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/29/2020 6:50:45 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/29/2020 6:50:45 PM
Surr: DNOP	83.3	55.1-146		%Rec	1	4/29/2020 6:50:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/29/2020 11:41:20 PM
Surr: BFB	100	66.6-105		%Rec	1	4/29/2020 11:41:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	4/29/2020 11:41:20 PM
Toluene	ND	0.049		mg/Kg	1	4/29/2020 11:41:20 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/29/2020 11:41:20 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/29/2020 11:41:20 PM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	4/29/2020 11:41:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	2900	150		mg/Kg	50	5/1/2020 3:45:46 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-007 **Matrix:** SOIL

Client Sample ID: BS20-11 0.5'
Collection Date: 4/24/2020 11:15:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	3800	91		mg/Kg	10	4/29/2020 7:14:59 PM
Motor Oil Range Organics (MRO)	1400	460		mg/Kg	10	4/29/2020 7:14:59 PM
Surr: DNOP	0	55.1-146	S	%Rec	10	4/29/2020 7:14:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	51	24		mg/Kg	5	4/30/2020 12:05:11 AM
Surr: BFB	175	66.6-105	S	%Rec	5	4/30/2020 12:05:11 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.12	D	mg/Kg	5	4/30/2020 12:05:11 AM
Toluene	ND	0.24	D	mg/Kg	5	4/30/2020 12:05:11 AM
Ethylbenzene	ND	0.24	D	mg/Kg	5	4/30/2020 12:05:11 AM
Xylenes, Total	1.7	0.49	D	mg/Kg	5	4/30/2020 12:05:11 AM
Surr: 4-Bromofluorobenzene	110	80-120	D	%Rec	5	4/30/2020 12:05:11 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	820	60		mg/Kg	20	5/1/2020 3:58:07 AM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-008 **Matrix:** SOIL

Client Sample ID: BS20-12 0.5'
Collection Date: 4/24/2020 11:20:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	62	10		mg/Kg	1	4/29/2020 7:39:25 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/29/2020 7:39:25 PM
Surr: DNOP	87.2	55.1-146		%Rec	1	4/29/2020 7:39:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/30/2020 1:16:52 AM
Surr: BFB	105	66.6-105		%Rec	1	4/30/2020 1:16:52 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 1:16:52 AM
Toluene	ND	0.049		mg/Kg	1	4/30/2020 1:16:52 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/30/2020 1:16:52 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/30/2020 1:16:52 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/30/2020 1:16:52 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	5/1/2020 4:10:27 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-13 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 11:25:00 AM
Lab ID: 2004B28-009 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	250	9.7		mg/Kg	1	4/29/2020 8:03:45 PM
Motor Oil Range Organics (MRO)	610	48		mg/Kg	1	4/29/2020 8:03:45 PM
Surr: DNOP	99.2	55.1-146		%Rec	1	4/29/2020 8:03:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/30/2020 1:40:44 AM
Surr: BFB	104	66.6-105		%Rec	1	4/30/2020 1:40:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 1:40:44 AM
Toluene	ND	0.048		mg/Kg	1	4/30/2020 1:40:44 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/30/2020 1:40:44 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/30/2020 1:40:44 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/30/2020 1:40:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	770	60		mg/Kg	20	5/1/2020 4:22:48 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-010 **Matrix:** SOIL

Client Sample ID: BS20-14 0.5'
Collection Date: 4/24/2020 11:30:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/29/2020 8:28:15 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/29/2020 8:28:15 PM
Surr: DNOP	88.9	55.1-146		%Rec	1	4/29/2020 8:28:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/30/2020 2:04:23 AM
Surr: BFB	106	66.6-105	S	%Rec	1	4/30/2020 2:04:23 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	4/30/2020 2:04:23 AM
Toluene	ND	0.046		mg/Kg	1	4/30/2020 2:04:23 AM
Ethylbenzene	ND	0.046		mg/Kg	1	4/30/2020 2:04:23 AM
Xylenes, Total	ND	0.092		mg/Kg	1	4/30/2020 2:04:23 AM
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	4/30/2020 2:04:23 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	1400	59		mg/Kg	20	5/1/2020 4:35:08 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-011 **Matrix:** SOIL

Client Sample ID: BS20-15 0.5'
Collection Date: 4/24/2020 11:35:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/29/2020 8:52:38 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/29/2020 8:52:38 PM
Surr: DNOP	89.4	55.1-146		%Rec	1	4/29/2020 8:52:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/30/2020 2:28:18 AM
Surr: BFB	105	66.6-105	S	%Rec	1	4/30/2020 2:28:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 2:28:18 AM
Toluene	ND	0.048		mg/Kg	1	4/30/2020 2:28:18 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/30/2020 2:28:18 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/30/2020 2:28:18 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/30/2020 2:28:18 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	2300	60		mg/Kg	20	5/1/2020 4:47:29 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-16 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 11:40:00 AM
Lab ID: 2004B28-012 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/29/2020 9:16:58 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/29/2020 9:16:58 PM
Surr: DNOP	89.7	55.1-146		%Rec	1	4/29/2020 9:16:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/30/2020 2:52:05 AM
Surr: BFB	103	66.6-105		%Rec	1	4/30/2020 2:52:05 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 2:52:05 AM
Toluene	ND	0.047		mg/Kg	1	4/30/2020 2:52:05 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/30/2020 2:52:05 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/30/2020 2:52:05 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/30/2020 2:52:05 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	1500	60		mg/Kg	20	5/1/2020 4:59:49 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-013 **Matrix:** SOIL

Client Sample ID: BS20-17 0.5'
Collection Date: 4/24/2020 11:45:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/29/2020 9:41:10 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/29/2020 9:41:10 PM
Surr: DNOP	90.6	55.1-146		%Rec	1	4/29/2020 9:41:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/30/2020 3:15:55 AM
Surr: BFB	104	66.6-105		%Rec	1	4/30/2020 3:15:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 3:15:55 AM
Toluene	ND	0.048		mg/Kg	1	4/30/2020 3:15:55 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/30/2020 3:15:55 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/30/2020 3:15:55 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/30/2020 3:15:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	330	61		mg/Kg	20	5/1/2020 5:36:50 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-014 **Matrix:** SOIL

Client Sample ID: BS20-18 0.5'
Collection Date: 4/24/2020 11:50:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/29/2020 9:38:59 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/29/2020 9:38:59 PM
Surr: DNOP	100	55.1-146		%Rec	1	4/29/2020 9:38:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/30/2020 3:39:44 AM
Surr: BFB	102	66.6-105		%Rec	1	4/30/2020 3:39:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	4/30/2020 3:39:44 AM
Toluene	ND	0.047		mg/Kg	1	4/30/2020 3:39:44 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/30/2020 3:39:44 AM
Xylenes, Total	ND	0.094		mg/Kg	1	4/30/2020 3:39:44 AM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	4/30/2020 3:39:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	1200	60		mg/Kg	20	5/1/2020 5:49:11 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-015 **Matrix:** SOIL

Client Sample ID: BS20-19 0.5'
Collection Date: 4/24/2020 11:55:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/29/2020 11:17:12 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/29/2020 11:17:12 PM
Surr: DNOP	90.2	55.1-146		%Rec	1	4/29/2020 11:17:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/30/2020 4:03:38 AM
Surr: BFB	106	66.6-105	S	%Rec	1	4/30/2020 4:03:38 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 4:03:38 AM
Toluene	ND	0.047		mg/Kg	1	4/30/2020 4:03:38 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/30/2020 4:03:38 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/30/2020 4:03:38 AM
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	4/30/2020 4:03:38 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	5/1/2020 6:01:31 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-20 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 12:00:00 PM
Lab ID: 2004B28-016 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/29/2020 11:41:37 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/29/2020 11:41:37 PM
Surr: DNOP	90.4	55.1-146		%Rec	1	4/29/2020 11:41:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/30/2020 11:09:20 AM
Surr: BFB	102	66.6-105		%Rec	1	4/30/2020 11:09:20 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 11:09:20 AM
Toluene	ND	0.048		mg/Kg	1	4/30/2020 11:09:20 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/30/2020 11:09:20 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/30/2020 11:09:20 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/30/2020 11:09:20 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/30/2020 12:56:50 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-017 **Matrix:** SOIL

Client Sample ID: BS20-21 0.5'
Collection Date: 4/24/2020 12:05:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	160	9.4		mg/Kg	1	4/30/2020 12:06:08 AM
Motor Oil Range Organics (MRO)	250	47		mg/Kg	1	4/30/2020 12:06:08 AM
Surr: DNOP	104	55.1-146		%Rec	1	4/30/2020 12:06:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/30/2020 11:33:03 AM
Surr: BFB	101	66.6-105		%Rec	1	4/30/2020 11:33:03 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 11:33:03 AM
Toluene	ND	0.048		mg/Kg	1	4/30/2020 11:33:03 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/30/2020 11:33:03 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/30/2020 11:33:03 AM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	4/30/2020 11:33:03 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	630	60		mg/Kg	20	4/30/2020 1:33:52 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-22 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 12:10:00 PM
Lab ID: 2004B28-018 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	740	9.9		mg/Kg	1	4/30/2020 12:30:35 AM
Motor Oil Range Organics (MRO)	370	50		mg/Kg	1	4/30/2020 12:30:35 AM
Surr: DNOP	109	55.1-146		%Rec	1	4/30/2020 12:30:35 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	220	60		mg/Kg	20	4/30/2020 2:10:57 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 4:28:49 AM
Toluene	ND	0.048		mg/Kg	1	4/30/2020 4:28:49 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/30/2020 4:28:49 AM
Xylenes, Total	0.11	0.095		mg/Kg	1	4/30/2020 4:28:49 AM
Surr: 1,2-Dichloroethane-d4	81.1	70-130		%Rec	1	4/30/2020 4:28:49 AM
Surr: 4-Bromofluorobenzene	64.8	70-130	S	%Rec	1	4/30/2020 4:28:49 AM
Surr: Dibromofluoromethane	89.4	70-130		%Rec	1	4/30/2020 4:28:49 AM
Surr: Toluene-d8	97.2	70-130		%Rec	1	4/30/2020 4:28:49 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	23	4.8		mg/Kg	1	4/30/2020 4:28:49 AM
Surr: BFB	112	70-130		%Rec	1	4/30/2020 4:28:49 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-23 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 12:15:00 PM
Lab ID: 2004B28-019 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/30/2020 12:55:09 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/30/2020 12:55:09 AM
Surr: DNOP	93.1	55.1-146		%Rec	1	4/30/2020 12:55:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/30/2020 2:23:18 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	4/30/2020 5:54:32 AM
Toluene	ND	0.049		mg/Kg	1	4/30/2020 5:54:32 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/30/2020 5:54:32 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/30/2020 5:54:32 AM
Surr: 1,2-Dichloroethane-d4	82.4	70-130		%Rec	1	4/30/2020 5:54:32 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/30/2020 5:54:32 AM
Surr: Dibromofluoromethane	90.8	70-130		%Rec	1	4/30/2020 5:54:32 AM
Surr: Toluene-d8	95.1	70-130		%Rec	1	4/30/2020 5:54:32 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/30/2020 5:54:32 AM
Surr: BFB	99.3	70-130		%Rec	1	4/30/2020 5:54:32 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-24 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 12:20:00 PM
Lab ID: 2004B28-020 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/30/2020 1:19:37 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/30/2020 1:19:37 AM
Surr: DNOP	90.4	55.1-146		%Rec	1	4/30/2020 1:19:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/30/2020 3:00:19 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 7:20:26 AM
Toluene	ND	0.049		mg/Kg	1	4/30/2020 7:20:26 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/30/2020 7:20:26 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/30/2020 7:20:26 AM
Surr: 1,2-Dichloroethane-d4	80.0	70-130		%Rec	1	4/30/2020 7:20:26 AM
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	1	4/30/2020 7:20:26 AM
Surr: Dibromofluoromethane	91.0	70-130		%Rec	1	4/30/2020 7:20:26 AM
Surr: Toluene-d8	94.8	70-130		%Rec	1	4/30/2020 7:20:26 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/30/2020 7:20:26 AM
Surr: BFB	96.2	70-130		%Rec	1	4/30/2020 7:20:26 AM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-021 **Matrix:** SOIL

Client Sample ID: BS20-25 0.5'
Collection Date: 4/24/2020 12:25:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/30/2020 1:44:07 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/30/2020 1:44:07 AM
Surr: DNOP	90.1	55.1-146		%Rec	1	4/30/2020 1:44:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	240	61		mg/Kg	20	4/30/2020 3:12:40 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 7:12:52 PM
Toluene	ND	0.048		mg/Kg	1	4/30/2020 7:12:52 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/30/2020 7:12:52 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/30/2020 7:12:52 PM
Surr: 1,2-Dichloroethane-d4	79.0	70-130		%Rec	1	4/30/2020 7:12:52 PM
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	4/30/2020 7:12:52 PM
Surr: Dibromofluoromethane	88.9	70-130		%Rec	1	4/30/2020 7:12:52 PM
Surr: Toluene-d8	89.3	70-130		%Rec	1	4/30/2020 7:12:52 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/30/2020 7:12:52 PM
Surr: BFB	96.2	70-130		%Rec	1	4/30/2020 7:12:52 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-26 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 12:30:00 PM
Lab ID: 2004B28-022 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	15	9.7		mg/Kg	1	4/30/2020 2:08:29 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/30/2020 2:08:29 AM
Surr: DNOP	90.2	55.1-146		%Rec	1	4/30/2020 2:08:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	81	60		mg/Kg	20	4/30/2020 3:25:01 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 7:41:22 PM
Toluene	ND	0.049		mg/Kg	1	4/30/2020 7:41:22 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/30/2020 7:41:22 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/30/2020 7:41:22 PM
Surr: 1,2-Dichloroethane-d4	78.1	70-130		%Rec	1	4/30/2020 7:41:22 PM
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	4/30/2020 7:41:22 PM
Surr: Dibromofluoromethane	92.0	70-130		%Rec	1	4/30/2020 7:41:22 PM
Surr: Toluene-d8	90.0	70-130		%Rec	1	4/30/2020 7:41:22 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/30/2020 7:41:22 PM
Surr: BFB	94.5	70-130		%Rec	1	4/30/2020 7:41:22 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-27 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 12:35:00 PM
Lab ID: 2004B28-023 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	22	9.9		mg/Kg	1	4/30/2020 2:33:03 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/30/2020 2:33:03 AM
Surr: DNOP	83.5	55.1-146		%Rec	1	4/30/2020 2:33:03 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	320	60		mg/Kg	20	4/30/2020 3:37:22 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 8:09:54 PM
Toluene	ND	0.048		mg/Kg	1	4/30/2020 8:09:54 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/30/2020 8:09:54 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/30/2020 8:09:54 PM
Surr: 1,2-Dichloroethane-d4	82.3	70-130		%Rec	1	4/30/2020 8:09:54 PM
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	4/30/2020 8:09:54 PM
Surr: Dibromofluoromethane	90.6	70-130		%Rec	1	4/30/2020 8:09:54 PM
Surr: Toluene-d8	92.4	70-130		%Rec	1	4/30/2020 8:09:54 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/30/2020 8:09:54 PM
Surr: BFB	99.1	70-130		%Rec	1	4/30/2020 8:09:54 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-29 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 12:45:00 PM
Lab ID: 2004B28-025 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	33	9.8		mg/Kg	1	4/30/2020 2:57:24 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/30/2020 2:57:24 AM
Surr: DNOP	85.4	55.1-146		%Rec	1	4/30/2020 2:57:24 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	330	60		mg/Kg	20	4/30/2020 3:49:42 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 8:38:30 PM
Toluene	ND	0.049		mg/Kg	1	4/30/2020 8:38:30 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/30/2020 8:38:30 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/30/2020 8:38:30 PM
Surr: 1,2-Dichloroethane-d4	79.3	70-130		%Rec	1	4/30/2020 8:38:30 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/30/2020 8:38:30 PM
Surr: Dibromofluoromethane	92.9	70-130		%Rec	1	4/30/2020 8:38:30 PM
Surr: Toluene-d8	90.5	70-130		%Rec	1	4/30/2020 8:38:30 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/30/2020 8:38:30 PM
Surr: BFB	97.2	70-130		%Rec	1	4/30/2020 8:38:30 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-30 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 12:50:00 PM
Lab ID: 2004B28-026 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/30/2020 3:21:58 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/30/2020 3:21:58 AM
Surr: DNOP	90.3	55.1-146		%Rec	1	4/30/2020 3:21:58 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	550	60		mg/Kg	20	4/30/2020 4:02:02 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 9:07:11 PM
Toluene	ND	0.049		mg/Kg	1	4/30/2020 9:07:11 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/30/2020 9:07:11 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/30/2020 9:07:11 PM
Surr: 1,2-Dichloroethane-d4	81.8	70-130		%Rec	1	4/30/2020 9:07:11 PM
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	4/30/2020 9:07:11 PM
Surr: Dibromofluoromethane	93.7	70-130		%Rec	1	4/30/2020 9:07:11 PM
Surr: Toluene-d8	93.7	70-130		%Rec	1	4/30/2020 9:07:11 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/30/2020 9:07:11 PM
Surr: BFB	95.8	70-130		%Rec	1	4/30/2020 9:07:11 PM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-027 **Matrix:** SOIL

Client Sample ID: BS20-31 0.25'
Collection Date: 4/24/2020 12:55:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/30/2020 3:46:23 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/30/2020 3:46:23 AM
Surr: DNOP	90.8	55.1-146		%Rec	1	4/30/2020 3:46:23 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	540	60		mg/Kg	20	4/30/2020 4:14:23 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	4/30/2020 9:35:51 PM
Toluene	ND	0.049		mg/Kg	1	4/30/2020 9:35:51 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/30/2020 9:35:51 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/30/2020 9:35:51 PM
Surr: 1,2-Dichloroethane-d4	78.7	70-130		%Rec	1	4/30/2020 9:35:51 PM
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	4/30/2020 9:35:51 PM
Surr: Dibromofluoromethane	90.8	70-130		%Rec	1	4/30/2020 9:35:51 PM
Surr: Toluene-d8	97.8	70-130		%Rec	1	4/30/2020 9:35:51 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/30/2020 9:35:51 PM
Surr: BFB	104	70-130		%Rec	1	4/30/2020 9:35:51 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-32 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 1:00:00 PM
Lab ID: 2004B28-028 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/30/2020 4:10:50 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/30/2020 4:10:50 AM
Surr: DNOP	86.3	55.1-146		%Rec	1	4/30/2020 4:10:50 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	140	60		mg/Kg	20	4/30/2020 4:26:45 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	4/30/2020 10:04:34 PM
Toluene	ND	0.050		mg/Kg	1	4/30/2020 10:04:34 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/30/2020 10:04:34 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/30/2020 10:04:34 PM
Surr: 1,2-Dichloroethane-d4	80.3	70-130		%Rec	1	4/30/2020 10:04:34 PM
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	4/30/2020 10:04:34 PM
Surr: Dibromofluoromethane	92.7	70-130		%Rec	1	4/30/2020 10:04:34 PM
Surr: Toluene-d8	93.5	70-130		%Rec	1	4/30/2020 10:04:34 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/30/2020 10:04:34 PM
Surr: BFB	98.2	70-130		%Rec	1	4/30/2020 10:04:34 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-33 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 1:05:00 PM
Lab ID: 2004B28-029 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	90	9.5		mg/Kg	1	4/30/2020 12:58:12 PM
Motor Oil Range Organics (MRO)	140	48		mg/Kg	1	4/30/2020 12:58:12 PM
Surr: DNOP	93.7	55.1-146		%Rec	1	4/30/2020 12:58:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	180	60		mg/Kg	20	4/30/2020 4:39:06 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/30/2020 10:33:23 PM
Toluene	ND	0.047		mg/Kg	1	4/30/2020 10:33:23 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/30/2020 10:33:23 PM
Xylenes, Total	ND	0.094		mg/Kg	1	4/30/2020 10:33:23 PM
Surr: 1,2-Dichloroethane-d4	80.4	70-130		%Rec	1	4/30/2020 10:33:23 PM
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	4/30/2020 10:33:23 PM
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	4/30/2020 10:33:23 PM
Surr: Toluene-d8	95.4	70-130		%Rec	1	4/30/2020 10:33:23 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/30/2020 10:33:23 PM
Surr: BFB	99.2	70-130		%Rec	1	4/30/2020 10:33:23 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-34 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 1:10:00 PM
Lab ID: 2004B28-030 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/30/2020 4:59:32 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/30/2020 4:59:32 AM
Surr: DNOP	89.4	55.1-146		%Rec	1	4/30/2020 4:59:32 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	130	60		mg/Kg	20	4/30/2020 4:51:26 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/1/2020 1:25:36 AM
Toluene	ND	0.047		mg/Kg	1	5/1/2020 1:25:36 AM
Ethylbenzene	ND	0.047		mg/Kg	1	5/1/2020 1:25:36 AM
Xylenes, Total	ND	0.095		mg/Kg	1	5/1/2020 1:25:36 AM
Surr: 1,2-Dichloroethane-d4	77.7	70-130		%Rec	1	5/1/2020 1:25:36 AM
Surr: 4-Bromofluorobenzene	98.3	70-130		%Rec	1	5/1/2020 1:25:36 AM
Surr: Dibromofluoromethane	88.8	70-130		%Rec	1	5/1/2020 1:25:36 AM
Surr: Toluene-d8	96.2	70-130		%Rec	1	5/1/2020 1:25:36 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/1/2020 1:25:36 AM
Surr: BFB	101	70-130		%Rec	1	5/1/2020 1:25:36 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-35 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 1:15:00 PM
Lab ID: 2004B28-031 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/30/2020 5:23:32 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/30/2020 5:23:32 AM
Surr: DNOP	87.7	55.1-146		%Rec	1	4/30/2020 5:23:32 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	130	60		mg/Kg	20	4/30/2020 5:28:29 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/1/2020 1:54:27 AM
Toluene	ND	0.050		mg/Kg	1	5/1/2020 1:54:27 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/1/2020 1:54:27 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/1/2020 1:54:27 AM
Surr: 1,2-Dichloroethane-d4	79.9	70-130		%Rec	1	5/1/2020 1:54:27 AM
Surr: 4-Bromofluorobenzene	94.6	70-130		%Rec	1	5/1/2020 1:54:27 AM
Surr: Dibromofluoromethane	92.3	70-130		%Rec	1	5/1/2020 1:54:27 AM
Surr: Toluene-d8	94.1	70-130		%Rec	1	5/1/2020 1:54:27 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/1/2020 1:54:27 AM
Surr: BFB	97.5	70-130		%Rec	1	5/1/2020 1:54:27 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-032 **Matrix:** SOIL

Client Sample ID: BS20-36 0.25'
Collection Date: 4/24/2020 1:20:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/30/2020 5:47:46 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/30/2020 5:47:46 AM
Surr: DNOP	87.1	55.1-146		%Rec	1	4/30/2020 5:47:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	110	60		mg/Kg	20	4/30/2020 5:40:49 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/1/2020 2:23:11 AM
Toluene	ND	0.049		mg/Kg	1	5/1/2020 2:23:11 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/1/2020 2:23:11 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/1/2020 2:23:11 AM
Surr: 1,2-Dichloroethane-d4	80.5	70-130		%Rec	1	5/1/2020 2:23:11 AM
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	5/1/2020 2:23:11 AM
Surr: Dibromofluoromethane	91.6	70-130		%Rec	1	5/1/2020 2:23:11 AM
Surr: Toluene-d8	95.4	70-130		%Rec	1	5/1/2020 2:23:11 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/1/2020 2:23:11 AM
Surr: BFB	98.7	70-130		%Rec	1	5/1/2020 2:23:11 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-033 **Matrix:** SOIL

Client Sample ID: BS20-37 0.25'
Collection Date: 4/24/2020 1:25:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/30/2020 6:11:53 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/30/2020 6:11:53 AM
Surr: DNOP	85.0	55.1-146		%Rec	1	4/30/2020 6:11:53 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	110	60		mg/Kg	20	4/30/2020 5:53:10 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/1/2020 2:51:48 AM
Toluene	ND	0.049		mg/Kg	1	5/1/2020 2:51:48 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/1/2020 2:51:48 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/1/2020 2:51:48 AM
Surr: 1,2-Dichloroethane-d4	80.2	70-130		%Rec	1	5/1/2020 2:51:48 AM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	5/1/2020 2:51:48 AM
Surr: Dibromofluoromethane	89.3	70-130		%Rec	1	5/1/2020 2:51:48 AM
Surr: Toluene-d8	99.1	70-130		%Rec	1	5/1/2020 2:51:48 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/1/2020 2:51:48 AM
Surr: BFB	101	70-130		%Rec	1	5/1/2020 2:51:48 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-034 **Matrix:** SOIL

Client Sample ID: BS20-38 0.25'
Collection Date: 4/24/2020 1:30:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	26	9.7		mg/Kg	1	4/30/2020 6:36:09 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/30/2020 6:36:09 AM
Surr: DNOP	89.7	55.1-146		%Rec	1	4/30/2020 6:36:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	130	60		mg/Kg	20	4/30/2020 6:05:31 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/1/2020 3:20:33 AM
Toluene	ND	0.050		mg/Kg	1	5/1/2020 3:20:33 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/1/2020 3:20:33 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/1/2020 3:20:33 AM
Surr: 1,2-Dichloroethane-d4	79.1	70-130		%Rec	1	5/1/2020 3:20:33 AM
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	1	5/1/2020 3:20:33 AM
Surr: Dibromofluoromethane	93.8	70-130		%Rec	1	5/1/2020 3:20:33 AM
Surr: Toluene-d8	93.4	70-130		%Rec	1	5/1/2020 3:20:33 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/1/2020 3:20:33 AM
Surr: BFB	97.2	70-130		%Rec	1	5/1/2020 3:20:33 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-39 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 1:35:00 PM
Lab ID: 2004B28-035 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/29/2020 11:18:26 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/29/2020 11:18:26 PM
Surr: DNOP	88.7	55.1-146		%Rec	1	4/29/2020 11:18:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	78	60		mg/Kg	20	4/30/2020 6:17:52 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/1/2020 3:49:21 AM
Toluene	ND	0.047		mg/Kg	1	5/1/2020 3:49:21 AM
Ethylbenzene	ND	0.047		mg/Kg	1	5/1/2020 3:49:21 AM
Xylenes, Total	ND	0.095		mg/Kg	1	5/1/2020 3:49:21 AM
Surr: 1,2-Dichloroethane-d4	81.0	70-130		%Rec	1	5/1/2020 3:49:21 AM
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	5/1/2020 3:49:21 AM
Surr: Dibromofluoromethane	90.5	70-130		%Rec	1	5/1/2020 3:49:21 AM
Surr: Toluene-d8	94.6	70-130		%Rec	1	5/1/2020 3:49:21 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/1/2020 3:49:21 AM
Surr: BFB	101	70-130		%Rec	1	5/1/2020 3:49:21 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-036 **Matrix:** SOIL

Client Sample ID: BS20-40 0.25'
Collection Date: 4/24/2020 1:40:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	15	9.1		mg/Kg	1	4/30/2020 12:31:15 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/30/2020 12:31:15 AM
Surr: DNOP	86.8	55.1-146		%Rec	1	4/30/2020 12:31:15 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	250	60		mg/Kg	20	4/30/2020 6:30:13 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/1/2020 4:18:10 AM
Toluene	ND	0.050		mg/Kg	1	5/1/2020 4:18:10 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/1/2020 4:18:10 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/1/2020 4:18:10 AM
Surr: 1,2-Dichloroethane-d4	80.5	70-130		%Rec	1	5/1/2020 4:18:10 AM
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	5/1/2020 4:18:10 AM
Surr: Dibromofluoromethane	94.3	70-130		%Rec	1	5/1/2020 4:18:10 AM
Surr: Toluene-d8	96.3	70-130		%Rec	1	5/1/2020 4:18:10 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/1/2020 4:18:10 AM
Surr: BFB	101	70-130		%Rec	1	5/1/2020 4:18:10 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-41 0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 1:45:00 PM
Lab ID: 2004B28-037 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	110	9.6		mg/Kg	1	4/30/2020 12:55:19 AM
Motor Oil Range Organics (MRO)	150	48		mg/Kg	1	4/30/2020 12:55:19 AM
Surr: DNOP	92.6	55.1-146		%Rec	1	4/30/2020 12:55:19 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	270	60		mg/Kg	20	4/30/2020 8:09:00 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/1/2020 4:46:36 AM
Toluene	ND	0.049		mg/Kg	1	5/1/2020 4:46:36 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/1/2020 4:46:36 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/1/2020 4:46:36 AM
Surr: 1,2-Dichloroethane-d4	82.6	70-130		%Rec	1	5/1/2020 4:46:36 AM
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	5/1/2020 4:46:36 AM
Surr: Dibromofluoromethane	94.1	70-130		%Rec	1	5/1/2020 4:46:36 AM
Surr: Toluene-d8	91.8	70-130		%Rec	1	5/1/2020 4:46:36 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/1/2020 4:46:36 AM
Surr: BFB	101	70-130		%Rec	1	5/1/2020 4:46:36 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-038 **Matrix:** SOIL

Client Sample ID: BS20-42 0.25'
Collection Date: 4/24/2020 1:50:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	22	9.6		mg/Kg	1	4/30/2020 1:19:35 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/30/2020 1:19:35 AM
Surr: DNOP	81.2	55.1-146		%Rec	1	4/30/2020 1:19:35 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/30/2020 8:21:21 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/1/2020 5:15:05 AM
Toluene	ND	0.049		mg/Kg	1	5/1/2020 5:15:05 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/1/2020 5:15:05 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/1/2020 5:15:05 AM
Surr: 1,2-Dichloroethane-d4	80.6	70-130		%Rec	1	5/1/2020 5:15:05 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	5/1/2020 5:15:05 AM
Surr: Dibromofluoromethane	92.1	70-130		%Rec	1	5/1/2020 5:15:05 AM
Surr: Toluene-d8	91.9	70-130		%Rec	1	5/1/2020 5:15:05 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/1/2020 5:15:05 AM
Surr: BFB	99.4	70-130		%Rec	1	5/1/2020 5:15:05 AM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-039 **Matrix:** SOIL

Client Sample ID: BS20-43 0.25'
Collection Date: 4/24/2020 1:55:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/30/2020 1:43:37 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/30/2020 1:43:37 AM
Surr: DNOP	78.1	55.1-146		%Rec	1	4/30/2020 1:43:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/30/2020 8:58:22 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/2/2020 2:31:37 AM
Toluene	ND	0.050		mg/Kg	1	5/2/2020 2:31:37 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/2/2020 2:31:37 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/2/2020 2:31:37 AM
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%Rec	1	5/2/2020 2:31:37 AM
Surr: 4-Bromofluorobenzene	92.8	70-130		%Rec	1	5/2/2020 2:31:37 AM
Surr: Dibromofluoromethane	95.1	70-130		%Rec	1	5/2/2020 2:31:37 AM
Surr: Toluene-d8	99.5	70-130		%Rec	1	5/2/2020 2:31:37 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/2/2020 2:31:37 AM
Surr: BFB	103	70-130		%Rec	1	5/2/2020 2:31:37 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-44 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 2:00:00 PM
Lab ID: 2004B28-040 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	14	9.6		mg/Kg	1	4/30/2020 2:07:51 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/30/2020 2:07:51 AM
Surr: DNOP	85.6	55.1-146		%Rec	1	4/30/2020 2:07:51 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	180	60		mg/Kg	20	4/30/2020 9:10:43 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/2/2020 3:59:58 AM
Toluene	ND	0.050		mg/Kg	1	5/2/2020 3:59:58 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/2/2020 3:59:58 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/2/2020 3:59:58 AM
Surr: 1,2-Dichloroethane-d4	90.5	70-130		%Rec	1	5/2/2020 3:59:58 AM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	5/2/2020 3:59:58 AM
Surr: Dibromofluoromethane	90.3	70-130		%Rec	1	5/2/2020 3:59:58 AM
Surr: Toluene-d8	98.7	70-130		%Rec	1	5/2/2020 3:59:58 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/2/2020 3:59:58 AM
Surr: BFB	102	70-130		%Rec	1	5/2/2020 3:59:58 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-45 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 2:05:00 PM
Lab ID: 2004B28-041 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/30/2020 2:31:57 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/30/2020 2:31:57 AM
Surr: DNOP	85.7	55.1-146		%Rec	1	4/30/2020 2:31:57 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	150	60		mg/Kg	20	4/30/2020 9:23:04 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/2/2020 5:27:40 AM
Toluene	ND	0.050		mg/Kg	1	5/2/2020 5:27:40 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/2/2020 5:27:40 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/2/2020 5:27:40 AM
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%Rec	1	5/2/2020 5:27:40 AM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	5/2/2020 5:27:40 AM
Surr: Dibromofluoromethane	96.2	70-130		%Rec	1	5/2/2020 5:27:40 AM
Surr: Toluene-d8	100	70-130		%Rec	1	5/2/2020 5:27:40 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/2/2020 5:27:40 AM
Surr: BFB	104	70-130		%Rec	1	5/2/2020 5:27:40 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-46 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 2:10:00 PM
Lab ID: 2004B28-042 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/30/2020 2:56:11 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/30/2020 2:56:11 AM
Surr: DNOP	86.8	55.1-146		%Rec	1	4/30/2020 2:56:11 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	240	60		mg/Kg	20	4/30/2020 9:35:24 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/2/2020 5:56:45 AM
Toluene	ND	0.050		mg/Kg	1	5/2/2020 5:56:45 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/2/2020 5:56:45 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/2/2020 5:56:45 AM
Surr: 1,2-Dichloroethane-d4	91.6	70-130		%Rec	1	5/2/2020 5:56:45 AM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	5/2/2020 5:56:45 AM
Surr: Dibromofluoromethane	94.7	70-130		%Rec	1	5/2/2020 5:56:45 AM
Surr: Toluene-d8	101	70-130		%Rec	1	5/2/2020 5:56:45 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/2/2020 5:56:45 AM
Surr: BFB	103	70-130		%Rec	1	5/2/2020 5:56:45 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-47 0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 2:15:00 PM
Lab ID: 2004B28-043 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/30/2020 3:20:16 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/30/2020 3:20:16 AM
Surr: DNOP	87.9	55.1-146		%Rec	1	4/30/2020 3:20:16 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	410	60		mg/Kg	20	4/30/2020 10:12:26 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/2/2020 6:26:02 AM
Toluene	ND	0.050		mg/Kg	1	5/2/2020 6:26:02 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/2/2020 6:26:02 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/2/2020 6:26:02 AM
Surr: 1,2-Dichloroethane-d4	94.4	70-130		%Rec	1	5/2/2020 6:26:02 AM
Surr: 4-Bromofluorobenzene	91.3	70-130		%Rec	1	5/2/2020 6:26:02 AM
Surr: Dibromofluoromethane	97.4	70-130		%Rec	1	5/2/2020 6:26:02 AM
Surr: Toluene-d8	99.4	70-130		%Rec	1	5/2/2020 6:26:02 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/2/2020 6:26:02 AM
Surr: BFB	102	70-130		%Rec	1	5/2/2020 6:26:02 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-044 **Matrix:** SOIL

Client Sample ID: BS20-48 0.5'
Collection Date: 4/24/2020 2:20:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/30/2020 3:44:28 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/30/2020 3:44:28 AM
Surr: DNOP	85.9	55.1-146		%Rec	1	4/30/2020 3:44:28 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	3100	150		mg/Kg	50	5/4/2020 6:15:42 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/2/2020 6:55:28 AM
Toluene	ND	0.048		mg/Kg	1	5/2/2020 6:55:28 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/2/2020 6:55:28 AM
Xylenes, Total	ND	0.095		mg/Kg	1	5/2/2020 6:55:28 AM
Surr: 1,2-Dichloroethane-d4	93.0	70-130		%Rec	1	5/2/2020 6:55:28 AM
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	5/2/2020 6:55:28 AM
Surr: Dibromofluoromethane	96.9	70-130		%Rec	1	5/2/2020 6:55:28 AM
Surr: Toluene-d8	99.2	70-130		%Rec	1	5/2/2020 6:55:28 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/2/2020 6:55:28 AM
Surr: BFB	105	70-130		%Rec	1	5/2/2020 6:55:28 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-06 0-3.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/23/2020 10:40:00 AM
Lab ID: 2004B28-045 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	490	9.8		mg/Kg	1	4/30/2020 4:08:34 AM
Motor Oil Range Organics (MRO)	200	49		mg/Kg	1	4/30/2020 4:08:34 AM
Surr: DNOP	98.9	55.1-146		%Rec	1	4/30/2020 4:08:34 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	120	60		mg/Kg	20	4/30/2020 10:37:09 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/2/2020 7:25:02 AM
Toluene	ND	0.050		mg/Kg	1	5/2/2020 7:25:02 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/2/2020 7:25:02 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/2/2020 7:25:02 AM
Surr: 1,2-Dichloroethane-d4	94.3	70-130		%Rec	1	5/2/2020 7:25:02 AM
Surr: 4-Bromofluorobenzene	64.1	70-130	S	%Rec	1	5/2/2020 7:25:02 AM
Surr: Dibromofluoromethane	95.4	70-130		%Rec	1	5/2/2020 7:25:02 AM
Surr: Toluene-d8	98.3	70-130		%Rec	1	5/2/2020 7:25:02 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/2/2020 7:25:02 AM
Surr: BFB	106	70-130		%Rec	1	5/2/2020 7:25:02 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-07 0-3.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/23/2020 10:50:00 AM
Lab ID: 2004B28-046 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	490	9.9		mg/Kg	1	4/30/2020 4:32:44 AM
Motor Oil Range Organics (MRO)	200	50		mg/Kg	1	4/30/2020 4:32:44 AM
Surr: DNOP	98.2	55.1-146		%Rec	1	4/30/2020 4:32:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	510	60		mg/Kg	20	4/30/2020 10:49:30 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/2/2020 7:54:12 AM
Toluene	ND	0.049		mg/Kg	1	5/2/2020 7:54:12 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/2/2020 7:54:12 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/2/2020 7:54:12 AM
Surr: 1,2-Dichloroethane-d4	91.0	70-130		%Rec	1	5/2/2020 7:54:12 AM
Surr: 4-Bromofluorobenzene	56.5	70-130	S	%Rec	1	5/2/2020 7:54:12 AM
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	5/2/2020 7:54:12 AM
Surr: Toluene-d8	101	70-130		%Rec	1	5/2/2020 7:54:12 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	10	4.9		mg/Kg	1	5/2/2020 7:54:12 AM
Surr: BFB	107	70-130		%Rec	1	5/2/2020 7:54:12 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-08 0-1'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 10:20:00 AM
Lab ID: 2004B28-047 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/30/2020 4:56:54 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/30/2020 4:56:54 AM
Surr: DNOP	92.1	55.1-146		%Rec	1	4/30/2020 4:56:54 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	1800	60		mg/Kg	20	4/30/2020 11:01:50 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/2/2020 8:23:19 AM
Toluene	ND	0.049		mg/Kg	1	5/2/2020 8:23:19 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/2/2020 8:23:19 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/2/2020 8:23:19 AM
Surr: 1,2-Dichloroethane-d4	89.6	70-130		%Rec	1	5/2/2020 8:23:19 AM
Surr: 4-Bromofluorobenzene	88.7	70-130		%Rec	1	5/2/2020 8:23:19 AM
Surr: Dibromofluoromethane	93.4	70-130		%Rec	1	5/2/2020 8:23:19 AM
Surr: Toluene-d8	101	70-130		%Rec	1	5/2/2020 8:23:19 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/2/2020 8:23:19 AM
Surr: BFB	103	70-130		%Rec	1	5/2/2020 8:23:19 AM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-048 **Matrix:** SOIL

Client Sample ID: WS20-09 0-0.5'
Collection Date: 4/24/2020 10:30:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	23	8.9		mg/Kg	1	4/30/2020 5:21:04 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/30/2020 5:21:04 AM
Surr: DNOP	95.6	55.1-146		%Rec	1	4/30/2020 5:21:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/30/2020 11:14:11 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/2/2020 8:53:02 AM
Toluene	ND	0.048		mg/Kg	1	5/2/2020 8:53:02 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/2/2020 8:53:02 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/2/2020 8:53:02 AM
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%Rec	1	5/2/2020 8:53:02 AM
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	1	5/2/2020 8:53:02 AM
Surr: Dibromofluoromethane	95.7	70-130		%Rec	1	5/2/2020 8:53:02 AM
Surr: Toluene-d8	99.4	70-130		%Rec	1	5/2/2020 8:53:02 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/2/2020 8:53:02 AM
Surr: BFB	104	70-130		%Rec	1	5/2/2020 8:53:02 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-10 0-0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 10:40:00 AM
Lab ID: 2004B28-049 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/30/2020 5:45:04 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/30/2020 5:45:04 AM
Surr: DNOP	71.0	55.1-146		%Rec	1	4/30/2020 5:45:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/30/2020 11:26:32 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/3/2020 3:08:51 AM
Toluene	ND	0.050		mg/Kg	1	5/3/2020 3:08:51 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/3/2020 3:08:51 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/3/2020 3:08:51 AM
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	1	5/3/2020 3:08:51 AM
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	5/3/2020 3:08:51 AM
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	5/3/2020 3:08:51 AM
Surr: Toluene-d8	101	70-130		%Rec	1	5/3/2020 3:08:51 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/3/2020 3:08:51 AM
Surr: BFB	103	70-130		%Rec	1	5/3/2020 3:08:51 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-050 **Matrix:** SOIL

Client Sample ID: WS20-11 0-0.5'
Collection Date: 4/24/2020 10:50:00 AM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/30/2020 6:09:08 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/30/2020 6:09:08 AM
Surr: DNOP	88.9	55.1-146		%Rec	1	4/30/2020 6:09:08 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	110	60		mg/Kg	20	4/30/2020 11:38:52 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/3/2020 3:39:23 AM
Toluene	ND	0.049		mg/Kg	1	5/3/2020 3:39:23 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2020 3:39:23 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/3/2020 3:39:23 AM
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	5/3/2020 3:39:23 AM
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	5/3/2020 3:39:23 AM
Surr: Dibromofluoromethane	97.4	70-130		%Rec	1	5/3/2020 3:39:23 AM
Surr: Toluene-d8	104	70-130		%Rec	1	5/3/2020 3:39:23 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2020 3:39:23 AM
Surr: BFB	105	70-130		%Rec	1	5/3/2020 3:39:23 AM

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-051 **Matrix:** SOIL

Client Sample ID: WS20-12 0-0.5'
Collection Date: 4/24/2020 2:40:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	24	9.4		mg/Kg	1	4/30/2020 2:28:52 PM
Motor Oil Range Organics (MRO)	58	47		mg/Kg	1	4/30/2020 2:28:52 PM
Surr: DNOP	99.7	55.1-146		%Rec	1	4/30/2020 2:28:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	690	60		mg/Kg	20	4/30/2020 11:51:13 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/3/2020 4:09:46 AM
Toluene	ND	0.048		mg/Kg	1	5/3/2020 4:09:46 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/3/2020 4:09:46 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/3/2020 4:09:46 AM
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%Rec	1	5/3/2020 4:09:46 AM
Surr: 4-Bromofluorobenzene	94.0	70-130		%Rec	1	5/3/2020 4:09:46 AM
Surr: Dibromofluoromethane	98.3	70-130		%Rec	1	5/3/2020 4:09:46 AM
Surr: Toluene-d8	104	70-130		%Rec	1	5/3/2020 4:09:46 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/3/2020 4:09:46 AM
Surr: BFB	105	70-130		%Rec	1	5/3/2020 4:09:46 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-13 0-0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 2:50:00 PM
Lab ID: 2004B28-052 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	14	10		mg/Kg	1	4/30/2020 6:57:17 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/30/2020 6:57:17 AM
Surr: DNOP	85.2	55.1-146		%Rec	1	4/30/2020 6:57:17 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	280	60		mg/Kg	20	5/1/2020 12:03:34 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/3/2020 4:38:54 AM
Toluene	ND	0.049		mg/Kg	1	5/3/2020 4:38:54 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2020 4:38:54 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/3/2020 4:38:54 AM
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%Rec	1	5/3/2020 4:38:54 AM
Surr: 4-Bromofluorobenzene	91.3	70-130		%Rec	1	5/3/2020 4:38:54 AM
Surr: Dibromofluoromethane	92.0	70-130		%Rec	1	5/3/2020 4:38:54 AM
Surr: Toluene-d8	98.6	70-130		%Rec	1	5/3/2020 4:38:54 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2020 4:38:54 AM
Surr: BFB	102	70-130		%Rec	1	5/3/2020 4:38:54 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-14 0-0.25'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 3:00:00 PM
Lab ID: 2004B28-053 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	28	9.9		mg/Kg	1	4/30/2020 7:21:12 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/30/2020 7:21:12 AM
Surr: DNOP	86.2	55.1-146		%Rec	1	4/30/2020 7:21:12 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	200	60		mg/Kg	20	5/1/2020 12:40:37 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.023		mg/Kg	1	5/3/2020 5:07:46 AM
Toluene	ND	0.047		mg/Kg	1	5/3/2020 5:07:46 AM
Ethylbenzene	ND	0.047		mg/Kg	1	5/3/2020 5:07:46 AM
Xylenes, Total	ND	0.094		mg/Kg	1	5/3/2020 5:07:46 AM
Surr: 1,2-Dichloroethane-d4	94.3	70-130		%Rec	1	5/3/2020 5:07:46 AM
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	5/3/2020 5:07:46 AM
Surr: Dibromofluoromethane	96.5	70-130		%Rec	1	5/3/2020 5:07:46 AM
Surr: Toluene-d8	101	70-130		%Rec	1	5/3/2020 5:07:46 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/3/2020 5:07:46 AM
Surr: BFB	105	70-130		%Rec	1	5/3/2020 5:07:46 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-054 **Matrix:** SOIL

Client Sample ID: WS20-15 0-0.5'
Collection Date: 4/24/2020 3:10:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	310	9.6		mg/Kg	1	4/30/2020 7:45:11 AM
Motor Oil Range Organics (MRO)	380	48		mg/Kg	1	4/30/2020 7:45:11 AM
Surr: DNOP	99.4	55.1-146		%Rec	1	4/30/2020 7:45:11 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	270	60		mg/Kg	20	5/1/2020 12:52:58 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/3/2020 5:37:03 AM
Toluene	ND	0.049		mg/Kg	1	5/3/2020 5:37:03 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2020 5:37:03 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/3/2020 5:37:03 AM
Surr: 1,2-Dichloroethane-d4	97.4	70-130		%Rec	1	5/3/2020 5:37:03 AM
Surr: 4-Bromofluorobenzene	90.2	70-130		%Rec	1	5/3/2020 5:37:03 AM
Surr: Dibromofluoromethane	96.8	70-130		%Rec	1	5/3/2020 5:37:03 AM
Surr: Toluene-d8	102	70-130		%Rec	1	5/3/2020 5:37:03 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2020 5:37:03 AM
Surr: BFB	101	70-130		%Rec	1	5/3/2020 5:37:03 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-055 **Matrix:** SOIL

Client Sample ID: WS20-16 0-0.5'
Collection Date: 4/24/2020 3:20:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	4/30/2020 9:38:09 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/30/2020 9:38:09 AM
Surr: DNOP	104	55.1-146		%Rec	1	4/30/2020 9:38:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	130	60		mg/Kg	20	5/1/2020 1:05:19 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/3/2020 6:06:15 AM
Toluene	ND	0.049		mg/Kg	1	5/3/2020 6:06:15 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2020 6:06:15 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/3/2020 6:06:15 AM
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%Rec	1	5/3/2020 6:06:15 AM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	5/3/2020 6:06:15 AM
Surr: Dibromofluoromethane	95.7	70-130		%Rec	1	5/3/2020 6:06:15 AM
Surr: Toluene-d8	99.2	70-130		%Rec	1	5/3/2020 6:06:15 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2020 6:06:15 AM
Surr: BFB	103	70-130		%Rec	1	5/3/2020 6:06:15 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-056 **Matrix:** SOIL

Client Sample ID: WS20-17 0-0.5'
Collection Date: 4/24/2020 3:30:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	47	9.6		mg/Kg	1	4/30/2020 10:50:17 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/30/2020 10:50:17 AM
Surr: DNOP	101	55.1-146		%Rec	1	4/30/2020 10:50:17 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	5/1/2020 9:59:16 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/3/2020 6:35:33 AM
Toluene	ND	0.049		mg/Kg	1	5/3/2020 6:35:33 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2020 6:35:33 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/3/2020 6:35:33 AM
Surr: 1,2-Dichloroethane-d4	92.1	70-130		%Rec	1	5/3/2020 6:35:33 AM
Surr: 4-Bromofluorobenzene	93.8	70-130		%Rec	1	5/3/2020 6:35:33 AM
Surr: Dibromofluoromethane	97.8	70-130		%Rec	1	5/3/2020 6:35:33 AM
Surr: Toluene-d8	98.6	70-130		%Rec	1	5/3/2020 6:35:33 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2020 6:35:33 AM
Surr: BFB	101	70-130		%Rec	1	5/3/2020 6:35:33 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw Unit 205H Pad
Lab ID: 2004B28-057 **Matrix:** SOIL

Client Sample ID: WS20-18 0-0.5'
Collection Date: 4/24/2020 3:40:00 PM
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	910	98		mg/Kg	10	4/30/2020 9:28:55 AM
Motor Oil Range Organics (MRO)	1500	490		mg/Kg	10	4/30/2020 9:28:55 AM
Surr: DNOP	0	55.1-146	S	%Rec	10	4/30/2020 9:28:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	68	60		mg/Kg	20	5/1/2020 11:01:18 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	5/3/2020 7:05:04 AM
Toluene	ND	0.048		mg/Kg	1	5/3/2020 7:05:04 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/3/2020 7:05:04 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/3/2020 7:05:04 AM
Surr: 1,2-Dichloroethane-d4	91.0	70-130		%Rec	1	5/3/2020 7:05:04 AM
Surr: 4-Bromofluorobenzene	92.3	70-130		%Rec	1	5/3/2020 7:05:04 AM
Surr: Dibromofluoromethane	95.0	70-130		%Rec	1	5/3/2020 7:05:04 AM
Surr: Toluene-d8	99.0	70-130		%Rec	1	5/3/2020 7:05:04 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/3/2020 7:05:04 AM
Surr: BFB	102	70-130		%Rec	1	5/3/2020 7:05:04 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2004B28**
Date Reported: **5/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-19 0-0.5'
Project: Cotton Draw Unit 205H Pad
Collection Date: 4/24/2020 3:50:00 PM
Lab ID: 2004B28-058 **Matrix:** SOIL
Received Date: 4/28/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	22	10		mg/Kg	1	4/30/2020 11:14:24 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/30/2020 11:14:24 AM
Surr: DNOP	126	55.1-146		%Rec	1	4/30/2020 11:14:24 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	5/1/2020 11:38:33 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	5/3/2020 7:34:38 AM
Toluene	ND	0.049		mg/Kg	1	5/3/2020 7:34:38 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2020 7:34:38 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/3/2020 7:34:38 AM
Surr: 1,2-Dichloroethane-d4	93.8	70-130		%Rec	1	5/3/2020 7:34:38 AM
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	1	5/3/2020 7:34:38 AM
Surr: Dibromofluoromethane	95.6	70-130		%Rec	1	5/3/2020 7:34:38 AM
Surr: Toluene-d8	95.9	70-130		%Rec	1	5/3/2020 7:34:38 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2020 7:34:38 AM
Surr: BFB	102	70-130		%Rec	1	5/3/2020 7:34:38 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**

05-May-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pad

Sample ID: **MB-52188** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **52188** RunNo: **68573**

Prep Date: **4/30/2020** Analysis Date: **4/30/2020** SeqNo: **2372613** Units: **mg/Kg**

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

Sample ID: **LCS-52188** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **52188** RunNo: **68573**

Prep Date: **4/30/2020** Analysis Date: **4/30/2020** SeqNo: **2372614** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.3	90	110			

Sample ID: **MB-52204** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **52204** RunNo: **68573**

Prep Date: **4/30/2020** Analysis Date: **4/30/2020** SeqNo: **2372643** Units: **mg/Kg**

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

Sample ID: **LCS-52204** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **52204** RunNo: **68573**

Prep Date: **4/30/2020** Analysis Date: **4/30/2020** SeqNo: **2372644** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.7	90	110			

Sample ID: **MB-52167** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **52167** RunNo: **68573**

Prep Date: **4/29/2020** Analysis Date: **5/1/2020** SeqNo: **2372675** Units: **mg/Kg**

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

Sample ID: **LCS-52167** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **52167** RunNo: **68573**

Prep Date: **4/29/2020** Analysis Date: **5/1/2020** SeqNo: **2372676** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**

05-May-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pad

Sample ID: **MB-52210**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **52210**	RunNo: **68572**							
Prep Date: **5/1/2020**	Analysis Date: **5/1/2020**	SeqNo: **2374227**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-52210**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **52210**	RunNo: **68572**							
Prep Date: **5/1/2020**	Analysis Date: **5/1/2020**	SeqNo: **2374228**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**
05-May-20

Client: Devon Energy
Project: Cotton Draw Unit 205H Pad

Sample ID: **LCS-52153**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **52153**	RunNo: **68504**							
Prep Date: **4/29/2020**	Analysis Date: **4/29/2020**	SeqNo: **2370383**	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	99.4	70	130			
Surr: DNOP	4.4		5.000		88.3	55.1	146			

Sample ID: **MB-52153**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **52153**	RunNo: **68504**							
Prep Date: **4/29/2020**	Analysis Date: **4/29/2020**	SeqNo: **2370384**	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	9.8		10.00		97.7	55.1	146			

Sample ID: **2004B28-035AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BS20-39 0.25'**	Batch ID: **52158**	RunNo: **68504**							
Prep Date: **4/29/2020**	Analysis Date: **4/29/2020**	SeqNo: **2371169**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.7	48.40	4.567	82.7	47.4	136			
Surr: DNOP	4.3		4.840		88.2	55.1	146			

Sample ID: **2004B28-035AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BS20-39 0.25'**	Batch ID: **52158**	RunNo: **68504**							
Prep Date: **4/29/2020**	Analysis Date: **4/30/2020**	SeqNo: **2371170**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	8.7	43.55	4.567	82.5	47.4	136	9.69	43.4	
Surr: DNOP	3.5		4.355		81.1	55.1	146	0	0	

Sample ID: **LCS-52158**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **52158**	RunNo: **68504**							
Prep Date: **4/29/2020**	Analysis Date: **4/29/2020**	SeqNo: **2371192**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	70	130			
Surr: DNOP	4.1		5.000		82.6	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**
05-May-20

Client: Devon Energy
Project: Cotton Draw Unit 205H Pad

Sample ID: **MB-52158**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **52158**	RunNo: **68504**
Prep Date: **4/29/2020**	Analysis Date: **4/29/2020**	SeqNo: **2371193** 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	8.4		10.00		83.8	55.1	146			

Sample ID: **2004B28-014AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-18 0.5'**	Batch ID: **52157**	RunNo: **68535**
Prep Date: **4/29/2020**	Analysis Date: **4/29/2020**	SeqNo: **2371395** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.9	49.65	0	93.6	47.4	136			
Surr: DNOP	4.4		4.965		88.8	55.1	146			

Sample ID: **2004B28-014AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-18 0.5'**	Batch ID: **52157**	RunNo: **68535**
Prep Date: **4/29/2020**	Analysis Date: **4/29/2020**	SeqNo: **2371396** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.6	47.85	0	89.1	47.4	136	8.70	43.4	
Surr: DNOP	4.1		4.785		84.7	55.1	146	0	0	

Sample ID: **LCS-52157**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **52157**	RunNo: **68535**
Prep Date: **4/29/2020**	Analysis Date: **4/29/2020**	SeqNo: **2371415** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.4	70	130			
Surr: DNOP	4.0		5.000		80.3	55.1	146			

Sample ID: **MB-52157**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **52157**	RunNo: **68535**
Prep Date: **4/29/2020**	Analysis Date: **4/29/2020**	SeqNo: **2371416** 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	9.4		10.00		93.6	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**

05-May-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pad

Sample ID: **MB-52159**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **52159**	RunNo: **68543**
Prep Date: **4/29/2020**	Analysis Date: **4/30/2020**	SeqNo: **2371591** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		105	55.1	146			

Sample ID: **LCS-52159**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **52159**	RunNo: **68543**
Prep Date: **4/29/2020**	Analysis Date: **4/30/2020**	SeqNo: **2371592** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.8	70	130			
Surr: DNOP	4.1		5.000		83.0	55.1	146			

Sample ID: **2004B28-055AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS20-16 0-0.5'**	Batch ID: **52159**	RunNo: **68543**
Prep Date: **4/29/2020**	Analysis Date: **4/30/2020**	SeqNo: **2371621** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	9.6	47.94	7.189	60.3	47.4	136			
Surr: DNOP	3.8		4.794		78.8	55.1	146			

Sample ID: **2004B28-055AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS20-16 0-0.5'**	Batch ID: **52159**	RunNo: **68543**
Prep Date: **4/29/2020**	Analysis Date: **4/30/2020**	SeqNo: **2371639** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.5	47.44	7.189	76.0	47.4	136	18.0	43.4	
Surr: DNOP	4.3		4.744		89.6	55.1	146	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**

05-May-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pad

Sample ID: **mb-52144**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **52144**	RunNo: **68500**
Prep Date: **4/28/2020**	Analysis Date: **4/29/2020**	SeqNo: **2370753** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	66.6	105			

Sample ID: **lcs-52144**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **52144**	RunNo: **68500**
Prep Date: **4/28/2020**	Analysis Date: **4/29/2020**	SeqNo: **2370754** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.9	80	120			
Surr: BFB	1100		1000		111	66.6	105			S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**

05-May-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pad

Sample ID: **mb-52144** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **52144** RunNo: **68500**

Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2370799** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **LCS-52144** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **52144** RunNo: **68500**

Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2370800** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	83.8	80	120			
Toluene	0.88	0.050	1.000	0	87.9	80	120			
Ethylbenzene	0.90	0.050	1.000	0	90.0	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**
05-May-20

Client: Devon Energy
Project: Cotton Draw Unit 205H Pad

Sample ID: **mb-52148** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **52148** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2371091** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.40		0.5000		79.9	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.1	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		90.1	70	130			
Surr: Toluene-d8	0.48		0.5000		96.2	70	130			

Sample ID: **lcs-52148** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **52148** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2371092** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.38		0.5000		77.0	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.3	70	130			
Surr: Dibromofluoromethane	0.44		0.5000		87.2	70	130			
Surr: Toluene-d8	0.47		0.5000		95.0	70	130			

Sample ID: **mb-52146** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **52146** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/30/2020** SeqNo: **2371093** 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	0.40		0.5000		79.5	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		90.2	70	130			
Surr: Toluene-d8	0.50		0.5000		99.1	70	130			

Sample ID: **LCS-52146** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **52146** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/30/2020** SeqNo: **2371094** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.025	1.000	0	80.6	70	130			
Toluene	0.97	0.050	1.000	0	96.9	70	130			
Ethylbenzene	1.0	0.050	1.000	0	102	70	130			
Xylenes, Total	3.0	0.10	3.000	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.5000		78.3	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**

05-May-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pad

Sample ID: **LCS-52146** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **LCSS** Batch ID: **52146** RunNo: **68529**

Prep Date: **4/28/2020** Analysis Date: **4/30/2020** SeqNo: **2371094** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.45		0.5000		90.7	70	130			
Surr: Toluene-d8	0.48		0.5000		96.3	70	130			

Sample ID: **2004b28-018ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BS20-22 0.5'** Batch ID: **52146** RunNo: **68529**

Prep Date: **4/28/2020** Analysis Date: **4/30/2020** SeqNo: **2371098** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9443	0	95.6	70	130			
Toluene	1.1	0.047	0.9443	0	111	70	130			
Ethylbenzene	1.1	0.047	0.9443	0	116	70	130			
Xylenes, Total	3.4	0.094	2.833	0.1134	117	70	130			
Surr: 1,2-Dichloroethane-d4	0.38		0.4721		80.0	70	130			
Surr: 4-Bromofluorobenzene	0.31		0.4721		66.0	70	130			S
Surr: Dibromofluoromethane	0.43		0.4721		90.8	70	130			
Surr: Toluene-d8	0.45		0.4721		95.6	70	130			

Sample ID: **2004b28-018amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BS20-22 0.5'** Batch ID: **52146** RunNo: **68529**

Prep Date: **4/28/2020** Analysis Date: **4/30/2020** SeqNo: **2371099** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9785	0	92.4	70	130	0.0950	20	
Toluene	1.0	0.049	0.9785	0	106	70	130	1.05	20	
Ethylbenzene	1.1	0.049	0.9785	0	110	70	130	2.15	0	
Xylenes, Total	3.4	0.098	2.935	0.1134	111	70	130	1.95	0	
Surr: 1,2-Dichloroethane-d4	0.40		0.4892		81.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.33		0.4892		68.1	70	130	0	0	S
Surr: Dibromofluoromethane	0.45		0.4892		91.5	70	130	0	0	
Surr: Toluene-d8	0.45		0.4892		92.9	70	130	0	0	

Sample ID: **mb-52147** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **PBS** Batch ID: **52147** RunNo: **68591**

Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373201** 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								

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**
05-May-20

Client: Devon Energy
Project: Cotton Draw Unit 205H Pad

Sample ID: **mb-52147** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **52147** RunNo: **68591**
Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373201** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.6	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.4	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		94.1	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Sample ID: **lcs-52147** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **52147** RunNo: **68591**
Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373202** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.5	80	120			
Toluene	0.97	0.050	1.000	0	97.4	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.5	80	120			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.2	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.4	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		94.7	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID: **2004b28-039ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-43 0.25'** Batch ID: **52147** RunNo: **68591**
Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373205** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.0	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.1	0.050	1.000	0	110	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		90.3	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.4	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.6	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID: **2004b28-039amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-43 0.25'** Batch ID: **52147** RunNo: **68591**
Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373206** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	0.9921	0	83.5	80	120	3.71	20	
Toluene	1.0	0.050	0.9921	0	105	80	120	0.930	20	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**
05-May-20

Client: Devon Energy
Project: Cotton Draw Unit 205H Pad

Sample ID: **2004b28-039amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-43 0.25'** Batch ID: **52147** RunNo: **68591**
Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373206** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	1.0	0.050	0.9921	0	106	80	120	5.00	20	
Xylenes, Total	3.1	0.099	2.976	0	104	80	120	3.47	20	
Surr: 1,2-Dichloroethane-d4	0.45		0.4960		90.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.46		0.4960		93.3	70	130	0	0	
Surr: Dibromofluoromethane	0.45		0.4960		90.8	70	130	0	0	
Surr: Toluene-d8	0.50		0.4960		101	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**

05-May-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pad

Sample ID: **mb-52146** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **52146** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/30/2020** SeqNo: **2371127** 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		100	70	130			

Sample ID: **mb-52148** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **52148** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2371128** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	490		500.0		98.2	70	130			

Sample ID: **lcs-52146** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **52146** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/30/2020** SeqNo: **2371129** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.1	70	130			
Surr: BFB	490		500.0		97.9	70	130			

Sample ID: **lcs-52148** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **52148** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2371130** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	500		500.0		100	70	130			

Sample ID: **2004b28-019ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BS20-23 0.5'** Batch ID: **52146** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/30/2020** SeqNo: **2371135** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.7	23.43	0	101	70	130			
Surr: BFB	480		468.6		102	70	130			

Sample ID: **2004b28-019amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BS20-23 0.5'** Batch ID: **52146** RunNo: **68529**
Prep Date: **4/28/2020** Analysis Date: **4/30/2020** SeqNo: **2371136** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	23.92	0	97.1	70	130	1.40	20	
Surr: BFB	480		478.5		101	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004B28**

05-May-20

Client: Devon Energy

Project: Cotton Draw Unit 205H Pad

Sample ID: **mb-52147** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **52147** RunNo: **68591**

Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373217** 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		100	70	130			

Sample ID: **lcs-52147** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **LCSS** Batch ID: **52147** RunNo: **68591**

Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373218** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.1	70	130			
Surr: BFB	490		500.0		98.0	70	130			

Sample ID: **2004b28-040ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **BS20-44 0.5'** Batch ID: **52147** RunNo: **68591**

Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373221** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.98	0	92.6	70	130			
Surr: BFB	510		499.5		102	70	130			

Sample ID: **2004b28-040amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **BS20-44 0.5'** Batch ID: **52147** RunNo: **68591**

Prep Date: **4/28/2020** Analysis Date: **5/2/2020** SeqNo: **2373222** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.98	0	87.4	70	130	5.78	20	
Surr: BFB	510		499.5		103	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: DEVON ENERGY Work Order Number: 2004B28 RcptNo: 1

Received By: Juan Rojas 4/28/2020 9:15:00 AM

Completed By: Isaiah Ortiz 4/28/2020 9:43:35 AM

Reviewed By: DAD 4/28/20

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# 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: JR 4/28/20

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.5	Good	Not Present			

Chain-of-Custody Record

Client: DeVon Energy

A. Davis W. Mathews

Mailing Address: 6488 Seven Rivers Hwy

Artesia, NM 88210

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☑ Standard ☐ Rush

Project Name: Cotton Draw Unit 205H Pad

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.4+0.1=0.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004B28	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/23	10:30	Soil	BS20-05 3.5'	4 oz	ice	-001	✓	✓					✓			
4/24	10:00		BS20-06 0.5'			-002										
	10:10		BS20-07 1'			-003										
	11:00		BS20-08 0.5'			-004										
	11:05		BS20-09 0.5'			-005										
	11:16		BS20-10 0.5'			-006										
	11:15		BS20-11 0.5'			-007										
	11:20		BS20-12 0.5'			-008										
	11:25		BS20-13 0.5'			-009										
	11:30		BS20-14 0.5'			-010										
	11:35		BS20-15 0.5'			-011										
	11:40		BS20-16 0.5'			-012										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/27/20	1430				4/27/20	1430
4/28/20	1900			courier	4/28/20	9:15

Remarks: cc: Natalie Gordon

Direct bill

Devon

w/o # 20843795 MM-120483.11.WWS

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

Chain-of-Custody Record

Client: Devon

A. Davis w. Mathews

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☐ Standard ☐ Rush

Project Name: Lotta Draw Unit 205H Pad

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.8+0.1=3.9 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004328	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/24	11:45	Soil	BS20-17 0.5'	4 oz	ice	-013	✓	✓					✓			
	11:50		BS20-18 0.5'			-014										
	11:55		BS20-19 0.5'			-015										
	12:00		BS20-20 0.5'			-016										
	12:05		BS20-21 0.5'			-017										
	12:10		BS20-22 0.5'			-018										
	12:15		BS20-23 0.5'			-019										
	12:20		BS20-24 0.5'			-020										
	12:25		BS20-25 0.5'			-021										
	12:30		BS20-26 0.25'			-022										
	12:35		BS20-27 0.25'			-023										
	12:40		BS20-28 0.25'	received empty jar for sample 4/28/20 MB		-024										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/27/20	1430				4/27/20	1430
4/27/20	1900			courier	4/28/20	9:15

Remarks: Direct bill Devon 20843795 MM-120483.11.WW0 CC: Natalie Gordon

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

Chain-of-Custody Record

Client: Devon
A. Davis W McAtee's
Mailing Address:

Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 Day
☐ Standard ☐ Rush
Project Name: Cotton Draw Unit 255H Pad
Project #: 20E-00141
Project Manager: Natalie Gordon
Sampler: MJP
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 0.4+0.1=0.5 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004B28	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/24	12:45	soil	BS20-29 0.25'	4oz	ice	-025	✓	✓					✓			
	12:50		BS20-30 0.25'			-026										
	12:55		BS20-31 0.25'			-027										
	1:00		BS20-32 0.25'			-028										
	1:05		BS20-33 0.25'			-029										
	1:10		BS20-34 0.25'			-030										
	1:15		BS20-35 0.25'			-031										
	1:20		BS20-36 0.25'			-032										
	1:25		BS20-37 0.25'			-033										
	1:30		BS20-38 0.25'			-034										
	1:35		BS20-39 0.25'			-035										
↓	1:40	↓	BS20-40 0.25'	↓	↓	-036	↓	↓					↓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/27/20	1430				4/27/20	1430
4/27/20	1900			courier	4/28/20	9:15

Remarks: Direct bill Devon CC: Natalie Gordon
20843795 MM-120483.11 WWO

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

Chain-of-Custody Record

Client: Devon

A Davis/tv Mathews

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☐ Standard ☐ Rush

Project Name: Cotton Draw Unit 205H Pad

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MJT

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.4+0.1=0.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004B28	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/24	1:45	Soil	BS20-41 0.25'	4oz	ice	-037	✓	✓					✓			
	1:50		BS20-42 0.25'			-038										
	1:55		BS20-43 0.25'			-039										
	2:00		BS20-44 0.5'			-040										
	2:05		BS20-45 0.5'			-041										
	2:10		BS20-46 0.5'			-042										
	2:15		BS20-47 0.5'			-043										
4/24	2:20		BS20-48 0.5'			-044										
4/23	10:40		WS20-06 0-3.5'			-045										
4/23	10:50		WS20-07 0-3.5'			-046										
4/24	10:20		WS20-08 0-1'			-047										
4/24	10:30	↓	WS20-09 0-0.5'	↓	↓	-048	↓	↓					↓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/27/20	1430				4/27/20	1430
4/27/20	1900			courier	4/28/20	9:15

Remarks: Direct bill to Devon CC: Natalie Gordon

20843795 MM-120483.11.WW0

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

Chain-of-Custody Record

Client: Devon

A. Davis / W. Mathews

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day
☐ Standard ☐ Rush

Project Name: Cotton Draw Unit 205H Pad

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.4+0.1=0.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004B28	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/24	10:40	Soil	WS20-10 0-0.5'	4oz	ice	-049 ~~-050~~	✓	✓					✓			
	10:50		WS20-11 0-0.5'			-050 ~~-051~~										
	2:40		WS20-12 0-0.5'			-051 ~~-052~~										
	2:50		WS20-13 0-0.25'			-052 ~~-053~~										
	3:00		WS20-14 0-0.25'			-053 ~~-054~~										
	3:10		WS20-15 0-0.5'			-054 ~~-055~~										
	3:20		WS20-16 0-0.5'			-055 ~~-056~~										
	3:30		WS20-17 0-0.5'			-056 ~~-057~~										
	3:40		WS20-18 0-0.5'			-057 ~~-058~~										
	3:50		WS20-19 0-0.5'			-058 ~~-059~~										
						IO 4/28/20										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/27/20	1430				4/27/20	1430
4/27/20	1900			courier	4/28/20	9:15

Remarks: cc: Natalie Gordon
Direct bill
Devon
20843795 MM-120483.11.WO

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.