

January 29, 2021

Vertex Project #: 20E-00141-059

Spill Closure Report:	Todd 36G State #8 Unit D, Section 36, Township 23 South, Range 31 East					
	County: Eddy					
	API: 30-015-29292					
	Tracking Number: NAB1731055411					
Prepared For:	Devon Energy Production Company					
	6488 Seven Rivers Highway					

Artesia, New Mexico 88210

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

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

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

## **Incident Description**

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

## **Site Characterization**

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

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The surrounding landscape is associated with plains and alluvial fans typical of elevations of 3,100 to 4,200 feet above sea level. The climate is semi-arid, with average annual precipitation ranging between 10 and 14 inches. The plant community has historically been dominated by giant dropseed and other dropseed grass species, with scattered shinnery oak and soapweed yucca. Bare ground and litter compose a significant proportion of ground cover while grasses make up the remainder (United States Department of Agriculture, Natural Resources Conservation Service, 2020). Limited to no vegetation is allowed to grow on the compacted wellpad.

*The Geological Map of New Mexico* indicates the surface geology at Todd 36G is comprised of Qep – eolian and piedmont deposits, that include eolian sands interlaid with piedmont-slope deposits (New Mexico Bureau of Geology and Mineral Resources, 2020). The Natural Resources Conservation Service (NRCS) Web Soil Survey characterizes the soil at the site as Kermit-Berino fine sands, characterized by alluvial fans and plains comprised of deep sand. It tends to be excessively drained with negligible runoff and low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is low potential for karst geology to be present near Todd 36G, though some erosional karst is possible (United States Department of the Interior, United States Geological Survey, 2020a).

There is no surface water located at Todd 36G. A freshwater emergent wetland is located approximately 2.6 miles southeast of the release site (United States Fish and Wildlife Service, 2020). The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the Pecos River located approximately 16 miles west of the site (United States Department of the Interior, United States Geological Survey, 2020b). At Todd 36G, there are no continuously flowing watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features nearby as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest active well to Todd 36G is a New Mexico Office of the State Engineer (NM OSE)-identified well from 2013, located approximately 0.76 miles west of the site, with a depth to groundwater of 430 feet below ground surface (bgs; New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2020). Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

## **Closure Criteria Determination**

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

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

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

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

## **Remedial Actions**

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

On November 27, 2020, Vertex provided 48-hour notification of confirmation sampling to the NM OCD, as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC (Attachment 5). Excavation of impacted soils began on November 20, 2020, with a Vertex representative on-site to conduct field screening to guide the excavation and determine the final horizontal and vertical extents of the excavation area as presented on Figure 2 (Attachment 2). On December 1, 2020, as remediation activities were concluding, Vertex collected a total of 14 five-point composite samples from the base and sidewalls of the excavation, at depths ranging between 0 and 2.5 feet bgs. Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NM OCD approval. The confirmatory samples were placed into laboratory-provided containers, preserved on ice and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sampling analytical data are summarized in Table 3 (Attachment 6). Laboratory data reports and chain of custody forms are included in Attachment 7.

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

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

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## **Closure Request**

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

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

Vertex requests that this incident (NAB1731055411) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Devon certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NM OCD requirements to obtain closure on the October 2, 2017, release at Todd 36G.

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

Sincerely,

atalie fordon

Natalie Gordon PROJECT MANAGER

## Attachments

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

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## References

- New Mexico Bureau of Geology and Mineral Resources. (2020). *Interactive Geologic Map.* Retrieved from http://geoinfo.nmt.edu.
- New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2020). *Water Column/Average* Depth to Water Report. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html
- New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.
- United States Department of Agriculture, Natural Resources Conservation Service. (2020). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.
- United States Department of the Interior, United States Geological Survey. (2020a). *New Mexico Cave/Karsts. Caves and Karst in the U.S. National Park Service*. Retrieved from https://www.arcgis.com/home/webmap/viewer.html?webmap=14675403c3794 8129acb758138f2dd1e
- United States Department of the Interior, United States Geological Survey. (2020b). *National Water Information System*. Retrieved from https://maps.waterdata.usgs.gov/mapper/index.html?state=nm
- United States Fish and Wildlife Service. (2020). *National Wetlands Inventory*. Retrieved from https://www.fws.gov/ wetlands/data/Mapper.html

2020 Spill Assessment and Closure January 2021

## 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.

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# **ATTACHMENT 1**

ceived by OCD: 4/23/2021 12	:00:17 AM				NM OIL C	CONSE	RVATIO	N	Pag	e 8 of 116
District I	10	Sta	te of	New Mex	ico ARTE	SIA DIST	RICT		г.	0.141
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811 S. First St., Artesia, NM 88210 District III						Submi		to appropriat	a Distriz	ot Office in
1000 Rio Brazos Road, Aztec, NM 87410				vation Div	v1s10n			cordance wit	h 19.15.2	29 NMAC.
District IV 1220 S. St. Francis Dr., Santa Fe, NM	87505	1220	South	1 St. Franc	us Dr. Ri	ECEIVE	D			
· · ·		Sa	nta Fe	e, NM 875	05					
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Name of Company Devon I	Energy Produc	tion Company <u>/</u>	<u>0137</u>	Contact M	att Nettles, Proc	duction Fo	oreman			
Address 6488 Seven Rivers	Hwy Artesia,	NM 88210		Telephone	No. 575-513-5	767				
36D State 2 location)	ale o (Occurre	u near the 1000		Facility 19	pe On					
			L							
Surface Owner Federal		Mineral (	)wner	State			API No	30-015-292	292	
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<u></u>		Latitude: 32 267	03	Lon		40		1		
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Type of Release			UKE	Volume of	LASL FRelease		Volume I	Recovered		
Produced Water and Oil				5.6bbls	Kelease	Ċ	bbls	accovered		
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was miniculate notice Given;	🛛 Yes 🗌	] No 🔲 Not Re	quired	Mike Brate	cher, OCD					
By Whom?			•	Date and	Hour					s
Chris West, Asst. Production Fo	reman			October 2,	2017 @ 4:30 PM	1				
Was a Watercourse Reached?		7		If YES, V	olume Impacting	g the Wate	ercourse			
		_ INO		N/A						
If a Watercourse was Impacte	d, Describe Ful	ly.*								
Describe Cause of Problem an	d Remedial Ac	tion Taken.*								
Flow line from the Todd 36G St	ate 8 ruptured d	ue to murphy kill	having	a broke wire.	The well was she	ut in at the	header to	o stop the rele	ease.	
		<b>F</b> 1								
Approximately 5bbls produced	water and 6bbls	aken.≁ oil were released	into pa	sture. The are	ea is approximate	lv 70'x 30'	' in the pa	asture to the H	East of th	ne battery.
Obbls recovered. An environm	ental contractor	will be contacted	to assis	t with the del	ineation and reme	ediation.	F			<b>,</b>
I hereby certify that the informa	tion given above	e is true and comp	lete to t	he best of my	knowledge and u	understand	that purs	suant to NMC	OCD rule	es and
regulations all operators are requ	uired to report a	nd/or file certain r	elease n	otifications a	nd perform correct	ctive action	ns for rel	eases which r	nay enda	anger
public health or the environmen	t. The acceptant	ce of a C-141 repo	ort by th	e NMOCD m	iarked as "Final R	Report" doe	es not reli	leve the operation is surface wat	ator of li	ability an health
or the environment. In addition	NMOCD accer	tance of a C-141	report d	loes not reliev	e the operator of	responsibi	ility for c	ompliance wat	ith any o	other
federal, state, or local laws and/	or regulations.							1		
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Printed Name: Sheila Fisher	updated form	(s) at:		Approved by	Environmental S	Specialist:	MAS	to V	$\langle \Lambda \rangle$	$\mathbb{N}$
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E-mail Address: Sheila.fisher@	dvn.com			Conditions o	f Approval:	Λ		A	N	
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Date: 10/3/17	Phone: 575.74	48.1829		XV.	MIMIN	un	<u>v</u>	0	Kr-	<u>77   </u>

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\* Attach Additional Sheets If Necessary

**Operator/Responsible Party,** 

The OCD has received the form C-141 you provided on 11/3/17 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 28P+11 has been assigned. Please refer to this case number in all future correspondence.

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District II office in Artesia on or before 12/3/17. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.

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

• Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

• Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

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

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

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

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

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

## Weaver, Crystal, EMNRD

From:	Fisher, Sheila <sheila.fisher@dvn.com></sheila.fisher@dvn.com>
Sent:	Friday, November 3, 2017 1:27 PM
То:	Weaver, Crystal, EMNRD; Bratcher, Mike, EMNRD; Amber Groves
	(agroves@slo.state.nm.us)
Cc:	Shoemaker, Mike; Fulks, Brett; West, Christopher; Carter, Ray; Nettles, Matt
Subject:	RE: [EXTERNAL] RE: Todd 36D State 2_5.6bbls pw & oil_10.2.17
Attachments:	Todd 36G State 8_5.6bbls pw & oil_Initial C-141_10.2.17-Revised.doc; Todd 36G State 8_
	5.6bbls pw & oil GIS Image 10.2.17.pdf

Good Afternoon,

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

Thank you,

Sheila Fisher

Field Admin Support Production B-Schedule

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



From: Weaver, Crystal, EMNRD [mailto:Crystal.Weaver@state.nm.us]

Sent: Friday, October 13, 2017 9:04 AM

**To:** Fisher, Sheila <Sheila.Fisher@dvn.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Amber Groves (agroves@slo.state.nm.us) <a href="mailto:state.nm.us">state.nm.us</a>)

**Cc:** Shoemaker, Mike <Mike.Shoemaker@dvn.com>; Fulks, Brett <Brett.Fulks@dvn.com>; West, Christopher <Christopher.West@dvn.com>; Carter, Ray <Ray.Carter@dvn.com>; Nettles, Matt <Matt.Nettles@dvn.com> **Subject:** [EXTERNAL] RE: Todd 36D State 2\_5.6bbls pw & oil\_10.2.17

Also Shelia,

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

Thank you,

## **Crystal Weaver**

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

From: Weaver, Crystal, EMNRD
Sent: Friday, October 13, 2017 8:45 AM
To: 'Fisher, Sheila' <<u>Sheila.Fisher@dvn.com</u>>; Bratcher, Mike, EMNRD <<u>mike.bratcher@state.nm.us</u>>; Amber Groves
(agroves@slo.state.nm.us) <<u>agroves@slo.state.nm.us</u>>
Cc: Shoemaker, Mike <<u>Mike.Shoemaker@dvn.com</u>>; Fulks, Brett <<u>Brett.Fulks@dvn.com</u>>; West, Christopher
<<u>Christopher.West@dvn.com</u>>; Carter, Ray <<u>Ray.Carter@dvn.com</u>>; Nettles, Matt <<u>Matt.Nettles@dvn.com</u>>
Subject: RE: Todd 36D State 2\_5.6bbls pw & oil\_10.2.17

Shelia,

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

Thank you,

## **Crystal Weaver**

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

From: Fisher, Sheila [mailto:Sheila.Fisher@dvn.com]
Sent: Thursday, October 12, 2017 3:07 PM
To: Bratcher, Mike, EMNRD <<u>mike.bratcher@state.nm.us</u>>; Weaver, Crystal, EMNRD <<u>Crystal.Weaver@state.nm.us</u>>;
Amber Groves (<u>agroves@slo.state.nm.us</u>) <<u>agroves@slo.state.nm.us</u>>
Cc: Shoemaker, Mike <<u>Mike.Shoemaker@dvn.com</u>>; Fulks, Brett <<u>Brett.Fulks@dvn.com</u>>; West, Christopher
<<u>Christopher.West@dvn.com</u>>; Carter, Ray <<u>Ray.Carter@dvn.com</u>>; Nettles, Matt <<u>Matt.Nettles@dvn.com</u>>
Subject: Todd 36D State 2\_5.6bbls pw & oil\_10.2.17

Good Afternoon,

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

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

Thank you,

Sheila Fisher Field Admin Support Production B-Schedule

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



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Page 3

Oil Conservation Division

	Page 14 of 11	0
Incident ID	NAB1731055411	
District RP	2RP-4471	
Facility ID		
Application ID		

# Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&lt;50</u> (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 X 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 X No
Are the lateral extents of the release overlying a subsurface mine?	Yes X No
Are the lateral extents of the release overlying an unstable area such as karst geology?	Yes X No
Are the lateral extents of the release within a 100-year floodplain?	Yes X No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	Yes X 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.

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

Received by OCD	: 4/23/2021 12:00:17 AM			Page 15 of 110
Form C-141	State of New Mexico		Incident ID	NAB1731055411
Page 4	Oil Conservation Division		District RP	2RP-4471
			Facility ID	
			Application ID	
regulations all of public health or failed to adequa addition, OCD and/or regulation	operators are required to report and/or file certain release no the environment. The acceptance of a C-141 report by the ately investigate and remediate contamination that pose a the acceptance of a C-141 report does not relieve the operator o ons.	tifications and perform OCD does not relieve eat to groundwater, su f responsibility for con	corrective actions for re the operator of liability s rface water, human healt ppliance with any other f	eleases which may endanger should their operations have th or the environment. In federal, state, or local laws
Printed Name	: Wes Mathews	Title:	EHS Professional	
Signature:	Wesley Mathews	Date:4	/21/2021	
email:	wesley.mathews@dvn.com	Telephone:	575-513-8608	
OCD Only Received by:		Date:		

Page 6

Oil Conservation Division

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

Page 16 of 116

# 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.

<u>Closure Report Attachment Checklist</u>: Each of the following items must be included in the closure report.

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

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

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

X Description of remediation activities

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

Printed Name: Wes Mathews	Title: EHS Professional
Signature: Wesley Mathews	Date:4/21/2021
email: <u>wesley.mathews@dvn.com</u>	Telephon <u>e: 575-513-8608</u>
OCD Only	
Received by: OCD	Date: 4/22/2021
Closure approval by the OCD does not relieve the responsible party of lia remediate contamination that poses a threat to groundwater, surface water party of compliance with any other federal, state, or local laws and/or re	ability should their operations have failed to adequately investigate and r, human health, or the environment nor does not relieve the responsible egulations.
Closure Approved by: Ashley Maxwell	Date: 9/16/2022
Printed Name: Ashley Maxwell	Title: Environmental Specialist

# **ATTACHMENT 2**





# **ATTACHMENT 3**

•

Closure C	Criteria Worksheet			
Site Nam	e: Todd 36 G State #8			
Spill Coo	rdinates:	X: 32.26703	Y: -103.73840	
Site Spec	ific Conditions	Value	Unit	
1	Depth to Groundwater	0	feet	
2	Within 300 feet of any continuously flowing	>1000	faat	
Z	watercourse or any other significant watercourse	>1000	feet	
2	Within 200 feet of any lakebed, sinkhole or playa lake	>1000	foot	
3	(measured from the ordinary high-water mark)	>1000	feet	
Λ	Within 300 feet from an occupied residence, school,	>1000	faat	
4	hospital, institution or church	>1000	leet	
	i) Within 500 feet of a spring or a private, domestic			
_	fresh water well used by less than five households for	>1000	feet	
5	domestic or stock watering purposes, <b>or</b>			
	ii) Within 1000 feet of any fresh water well or spring	>1000	feet	
	Within incorporated municipal boundaries or within a			
	defined municipal fresh water field covered under a			
6	municipal ordinance adopted pursuant to Section 3-27-	No	(Y/N)	
	3 NMSA 1978 as amended, unless the municipality			
	specifically approves			
7	Within 300 feet of a wetland	>1000	feet	
8	Within the area overlying a subsurface mine		(Y/N)	
			Critical	
			High	
9	within an unstable area (Karst Map)	LOW	Medium	
			Low	
10	Within a 100-year Floodplain	No	year	
			l	
11	Soil Type	Kermit_Beri	no fine sands	
			[	
12	Ecological Classification	Deen Sand		
12		beep suite		
40				
13	Geology	Qep		
			<50'	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'?	51-100'	
			>100'	

# Todd 36 G State 8



Released to Imaging: 9/16/2022 4:32:30 PM

SiteBoundaries



# 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 02258	3 2 26 23S 31E	618055 3571853* 🌍		
<b>Driller License:</b> 421	<b>Driller Company:</b> GLENN'S WA	TER WELL SERVICE		
Driller Name: CORKY GLENN				
<b>Drill Start Date:</b> 09/18/1992	Drill Finish Date: 09/18/1992	Plug Date:		
<b>Log File Date:</b> 09/25/1992	PCW Rcv Date:	Source:		
Pump Type:	Pipe Discharge Size:	<b>Estimated Yield:</b>		
Casing Size:	<b>Depth Well:</b> 662 feet	Depth Water:		

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/15/20 6:10 PM

POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer **Point of Diversion Summary**

			(quarters	are 1=N	W 2=	NE 3=SV	V 4=SE)			
			(quarters	s are sm	allest	to largest	)	(NAD83 U	TM in meters)	
Well Tag	POD	) Number	Q64 Q1	l6 Q4	Sec	Tws	Rng	Х	Y	
	C 0	2348	1 4	4 3	26	23S	31E	617648	3571068 🌍	
x Driller Lic Driller Nat	ense: me:	1654	Driller C	ompa	ny:	NO AN	T WOF D CON	RKING FOR ISTRUC	HIRESIRMA	N DRILLING
Drill Start	Date:	10/31/2013	Drill Fini	ish Da	te:	11	/01/20	13 <b>Pl</b>	ug Date:	
Log File D	ate:	11/07/2013	PCW Rc	v Date	e:			So	ource:	Shallow
Pump Typ	e:		Pipe Disc	charge	e Size	e:		Es	timated Yield:	10 GPM
Casing Siz	e:	6.00	Depth W	ell:		70	00 feet	De	epth Water:	430 feet
x	Wate	er Bearing Strati	fications:	Тс	op H	Bottom	Desc	ription		
					15	125	Sands	stone/Grave	l/Conglomerate	
				3	15	700	Sands	stone/Grave	l/Conglomerate	
Х		Casing Per	forations:	Т	op H	Bottom				
				50	50	620				
				68	30	700				
v										

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/15/20 6:09 PM

POINT OF DIVERSION SUMMARY



Driller License:	Driller Company:	
Driller Name:		
Drill Start Date:	Drill Finish Date:	Plug Date:
Log File Date:	PCW Rcv Date:	Source:
Pump Type:	Pipe Discharge Size:	Estimated Yield:
Casing Size:	Depth Well:	Depth Water:

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/15/20 6:07 PM

POINT OF DIVERSION SUMMARY

Received by OCD: 4/23/2021 12:00:17 AM



**National Water Information System: Web Interface** 

USGS Water Resources

Data Category: Geographic Area: United States

✓ GO

USGS Home Contact USGS Search USGS

Click to hideNews Bulletins

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

Groundwater levels for the Nation

#### Search Results -- 1 sites found

site\_no list =

321609103445901

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

## USGS 321609103445901 23S.31E.26.34411

Available data for this site Groundwater: Field measurements 🗸 GO

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

**Output formats** 

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



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

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

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey Title: Groundwater for USA: Water Levels

URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2020-10-15 19:53:18 EDT 0.63 0.55 nadww01 USA.gov

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Nearest Watercourse: Pecos River Distance: 16.46 miles (86,899 ft) Legend<sup>8</sup> of 116 Feature 1

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# Todd 36 G State 8

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Legend<sup>9 of 116</sup> Feature 1

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

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Legend<sup>0 of 116</sup> Feature 1

Todd 36 G State 8 🥇

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National Wetlands Inventory

U.S. Fish and Wildlife Service



Todd 36G State 8

Riverine

Other

Freshwater Forested/Shrub Wetland

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Pond





		;;;)		
Area of Iı	n <b>terest (AOI)</b> Area of Interest (AOI)	∭ <	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:20,000.
Soils		8	Very Stony Spot	Warning: Soil Map may not be valid at this scale.
	Soil Map Unit Polygons Soil Map Unit Lines	Ş	Wet Spot	Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of manning and accuracy of so
•	Soil Map Unit Points	$\triangleleft$	Other	line placement. The maps do not show the small areas of
Special	Point Features	t	Special Line Features	contrasting soils that could have been shown at a more detail scale.
fol	Blowput	Water Fe	atures	
	Borrow Pit	2	Streams and Canals	Please rely on the bar scale on each map sheet for map measurements
3		Transpoi	rtation	
Ж	Clay Spot	ŧ	Rails	Source of Map: Natural Resources Conservation Service
$\diamond$	Closed Depression	1	Interstate Highways	veb Soll Survey UKL: Coordinate System: Veb Mercator (EPSG:3857)
⊁	Gravel Pit	1	US Routes	Maps from the Web Soil Survey are based on the Web Merca
**	Gravelly Spot	)	Major Roads	projection, which preserves direction and shape but distorts
0	Landfill	8	Local Roads	uistance and area. A projection that preserves area, such as t Albers equal-area conic projection, should be used if more
2	Lava Flow	Backgro	nud	accurate calculations of distance or area are required.
4	Marsh or swamp	8	Aerial Photography	This product is generated from the USDA-NRCS certified date of the version date(s) listed below
«	Mine or Quarry			Sail Survey Area: Eddy Area New Mexico
0	Miscellaneous Water			Survey Area Data: Version 16, Jun 8, 2020
0	Perennial Water			Soil map units are labeled (as space allows) for map scales
>	Rock Outcrop			1:50,000 or larger.
÷	Saline Spot			Date(s) aerial images were photographed: Feb 7, 2020—Me
3°0	Sandy Spot			The orthonhoto or other base man on which the soil lines wer
Ŵ	Severely Eroded Spot			compiled and digitized probably differs from the background
0	Sinkhole			imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
A	Slide or Slip			-
Ø	Sodic Spot			

10/15/2020 Page 2 of 3

# Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
КМ	Kermit-Berino fine sands, 0 to 3 percent slopes	9.5	100.0%
Totals for Area of Interest		9.5	100.0%



## Eddy Area, New Mexico

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

## **Map Unit Setting**

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

## **Map Unit Composition**

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

## **Description of Kermit**

## Setting

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

## **Typical profile**

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

## **Properties and qualities**

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

## Interpretive groups

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

## **Description of Berino**

### Setting

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

#### **Typical profile**

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

## **Properties and qualities**

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

## Interpretive groups

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

## **Minor Components**

#### Active dune land

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

## **Data Source Information**

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




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Greenwood

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Faults

Fault, Exposed

Fault, Intermittent

Fault, Concealed

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Todd 36 G State 8

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Lindsey

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## **ATTACHMENT 4**

#### Received by OCD: 4/23/2021 12:00:17 AM

Spill Response and Sampling V底向下面入 Client: Devon Initial Spill Information - Record on First Visit 9-16:20 Todd 366 Stak 8 Date: Spill Date: Site Name: Spill Volume: Site Location: Spill Gause: Project Owner; Spill Products Project Manager: Recovered Spill Volume: Project #: Recovery Method: Sampling **Field Screening** Data Collection (Check for Yes) Sample ID Depth (ft) PetroFlag TPH VOC (PID) Quantab (High/Low) + or Lab Analysis (ppm) Trimble Marked on Picture S/TP/BIL Year Coordinates Site Sketch Number En. '2.ft Ex. 400 ppm 200 ppm Ex. Hydrocarbon Ex. High + Ex. BH18-01 Chlorido 0.53/233 BH20-1 0-1' BH20-1' 0.18/2219 BH2-1.10-1.5 122,6 dug down 6" BH20-3 0-1' 2.2.7 BH20-3. 0-2.5' dug dann 1.5' dug dann 1' BH20-320-3.5 2.40/230

Page 39 of 116

#### Received by OCD: 4/23/2021 12:00:17 AM



Spill Resp	onse and	Sampling	р <sup>.</sup> 2		-		v	ERTE
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Date:		9-16-2	6	n an	Spill Data:	******	1999-9-9999-9-9-9-9-9-9-9-9-9-9-9-9-9-9	*****
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Site Location;		Todd 3	6GSt	ate 8	Spill Cause	an i donar a dan san ta' kata da ang sa	Annanian an a	1911 Ilan (1944)
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Devon Energy Corporation	Inspection Date:	12/1/2020
Todd 36 G State #8	Report Run Date:	12/3/2020 12:40 AM
Amanda Davis	API #:	30-015-29292
(575) 748-0176		
-Todd 36 G State #8	Project Owner:	Tom Bynum
NAB1731055411	Project Manager:	Natalie Gordon
	Summary of T	Times
12/1/2020 7:52 AM		
12/1/2020 3:30 PM		
	Devon Energy Corporation Todd 36 G State #8 Amanda Davis (575) 748-0176 -Todd 36 G State #8 NAB1731055411 12/1/2020 7:52 AM 12/1/2020 3:30 PM	Devon Energy Corporation Inspection Date: Todd 36 G State #8 Report Run Date: Amanda Davis API #: (575) 748-0176 -Todd 36 G State #8 Project Owner: NAB1731055411 Project Manager: Summary of T 12/1/2020 7:52 AM 12/1/2020 3:30 PM

**Field Notes** 

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

**Next Steps & Recommendations** 

1 Continue excavation







#### **Daily Site Visit Signature**

Inspector: Monica Peppin Signature: Signature

•



Client:	Devon Energy Corporation	Inspection Date:	12/2/2020
Site Location Name:	Todd 36 G State #8	Report Run Date:	12/3/2020 12:41 AM
Client Contact Name:	Amanda Davis	API #:	30-015-29292
Client Contact Phone #:	(575) 748-0176	_	
Unique Project ID	-Todd 36 G State #8	Project Owner:	Tom Bynum
Project Reference #	NAB1731055411	Project Manager:	Natalie Gordon
		Summary of	Times
Arrived at Site	12/2/2020 9:01 AM		
Departed Site	12/2/2020 3:38 PM		

**Field Notes** 

11:06 Continue excavation and finish collection of confirmation samples

#### **Next Steps & Recommendations**

1 Complete closure report

2 Backfill area



# Viewing Direction: West Viewing Direction: North Excavation area Excavation area Viewing Direction: South Viewing Direction: West 2.5' excavation area Excavation area

**Site Photos** 



**Daily Site Visit Signature** 

Inspector: Monica Peppin Signature:

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#### Received by OCD: 4/23/2021 12:00:17 AM



Spill Resp	onse and	Sampling					V	EATE
Client:		Duc	50		Initial Spill Information - Rec	ord on First	t Visit	
Date:		12/1/0	20		Spill Date:			
Site Name:		Todd	36	G 5+8	Spill Volume:			
Site Location:					Spill Cause:			
Project Owner:					Spill Product:			
Project Manager:					Recovered Spill Volume:			
Project #:	1757/07	and the state of the			Recovery Method:			1)-10-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-
			Field Screening	Sampling	Data Collection (	Check for Y	es)	
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	Quantab (High/Low) + or -	Lab Analysis	Picture	Trimble	Marked o Site Sketc
SS/TP/BH - Year - Number Ex. BH18-01	Ex. '2ft	Ex. 400 ppm	200 ppm	Ex. 'High +	Ex. Hydrocarbon Chloride			
Ll	0.5			2.51/3.6	test spot	na kana dan dan kana na mangan kana dan kan		
BSI	0.5		71	0.05/19.2	9:30			
352	0.5		132	0.00/19.4				
*B53	0.5		91	0.05/19.7	9:40			
× Y	0.5		43	0.03/21.0	9:50			
5	2.5			0.14/17.4	19:00			
6	D. 5		36	0.23/18.3	12:10			
BS7	0.5			0.03/18.3	12:20			
WS1	0-0.5		163	0.08/15.9				
6 8	0-0.5	5	66	5.0C/ PO.0	10:10	-		
WS 3				0.29/17.4	12:40			
B52.	1		159	0.08/17.2	<u> </u>			
B52.3	2		109	0.05/19.6	<u> </u>			
x0WS1.1	1		90	0.04/19.4	10:30			
* BS 2.3	3		74	0.06/19.4	11:00			
ausle	0-25			0.05/17.3	1: 90			
a BS 8	Birg		408	0.39/17.0	12:30			
BUG	PLAN				1:30			
BSER	BS8.1	2.5	41	0.20/17.4				
WS 4	0-0.5	-	52	0.29/17.1	12:50			
1.56	0-25	-		0.07/173	1:00			

Released to Imaging: 9/16/2022 4:32:30 PM

VERSATILITY. EXPERTISE.



Client:	Devon Energy Corporation	Inspection Date:	12/21/2020			
Site Location Name:	Todd 36 G State #8	Report Run Date:	12/21/2020 7:14 PM			
Client Contact Name:	Amanda Davis	API #:	30-015-29292			
Client Contact Phone #:	(575) 748-0176					
Unique Project ID	-Todd 36 G State #8	Project Owner:	Tom Bynum			
Project Reference #	NAB1731055411	Project Manager:	Natalie Gordon			
		Summary of	Times			
Arrived at Site	12/21/2020 8:10 AM					
Departed Site	12/21/2020 11:30 AM					
Field Notes						

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

Next Steps & Recommendations

1



## **Site Photos** Viewing Direction: Southwest Viewing Direction: North Before backfill Before backfill Viewing Direction: Northeast Viewing Direction: West HARRING WE Before backfill Before backfill







**Daily Site Visit Signature** 

Inspector: John Ramirez

Signature:

Run on 12/21/2020 7:14 PM UTC

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Client:	Devon Energy Corporation	Inspection Date:	11/30/2020
Site Location Name:	Todd 36 G State #8	Report Run Date:	12/1/2020 1:23 PM
Client Contact Name:	Amanda Davis	API #:	30-015-29292
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Todd 36 G State #8	Project Owner:	Tom Bynum
Project Reference #	NAB1731055411	Project Manager:	Natalie Gordon
		Summary of	<b>Fimes</b>
Arrived at Site	11/30/2020 9:09 AM		
Departed Site	11/30/2020 4:09 PM		

#### **Field Notes**

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

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

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

#### **Next Steps & Recommendations**

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





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

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#### **Daily Site Visit Signature**

Inspector: Kevin Smith

Signature:

Run on 12/1/2020 1:23 PM UTC

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## **ATTACHMENT 5**

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

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

"-" - Not applicable/assessed

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



.

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

		Table 3. Confirn	natory Sampling	g Laboratory Re	sults - Depth to	Groundwater	< 50 feet			
	Sample Description		Petroleum Hydrocarbons							
			Vol	atile	Extractable					morganic
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS20-01	0.5	December 1, 2020	<0.025	<0.225	<5.0	<9.5	<48	<14.5	<62.5	<60
BS20-02	0.5	December 1, 2020	<0.025	<0.224	<5.0	<9.8	<49	<14.8	<63.8	<59
BS20-03	0.5	December 1, 2020	<0.025	<0.225	<5.0	<9.8	<49	<14.8	<63.8	<60
BS20-04	0.5	December 1, 2020	<0.025	<0.224	<5.0	<9.4	<47	<14.4	<61.4	<59
BS20-05	0.5	December 1, 2020	<0.024	<0.216	<4.8	<9.7	<48	<14.5	<62.5	120
BS20-06	0.5	December 1, 2020	<0.025	<0.222	<4.9	<9.8	<49	<14.7	<63.7	<60
BS20-07	0.5	December 1, 2020	<0.025	<0.222	<4.9	<9.6	<48	<14.5	<62.5	<60
BS20-08	2.5	December 1, 2020	<0.025	<0.224	<5.0	<9.1	<45	<14.1	<59.1	<60
WS20-01	0-0.5	December 1, 2020	<0.024	<0.219	<4.9	<9.9	<49	<14.8	<63.8	<60
WS20-02	0-0.5	December 1, 2020	<0.023	<0.211	<4.7	<9.4	<47	<14.1	<61.1	<60
WS20-03	0-0.5	December 1, 2020	<0.025	<0.221	<4.9	<9.3	<47	<14.2	<61.2	210
WS20-04	0-0.5	December 1, 2020	<0.025	<0.225	<5.0	<9.9	<50	<14.9	<64.9	260
WS20-05	0-2.5	December 1, 2020	<0.025	<0.222	<4.9	62	2,300	62	2,362	75
WS20-05	0-2.5	December 18, 2020	<0.024	<0.220	<4.9	<9.6	<48	<14.5	<62.5	150
WS20-06	0-2.5	December 1, 2020	<0.025	<0.222	<4.9	<9.8	<49	<14.7	<63.7	<60

"-" - Not applicable/assessed

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

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



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## **ATTACHMENT 6**

#### **Natalie Gordon**

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

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

All,

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

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

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

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

Thank you, Natalie

## Natalie Gordon

Project Manager

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

#### P 575.725.5001 ext 709 C 505.506.0040 F

#### www.vertex.ca

Confidentiality Notice: This message and any attachments are solely for the intended recipient and may contain confidential or privileged information. If you are not the intended recipient, any disclosure, copying, use, or distribution of the information included in this message and any attachment is prohibited. If you have received this communication in error, please notify us by reply email and immediately and permanently delete this message and any attachments. Thank you.

## **ATTACHMENT 7**



September 28, 2020

Natalie Gordon Devon Energy 6488 Seven Rivers Highway Artesia, NM 88210 TEL: (575) 748-0176 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

OrderNo.: 2009B06

RE: Todd 36G State 8

Dear Natalie Gordon:

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

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

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 2009B06

#### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 9/28/2020

CLIENT: Devon Energy Project: Todd 36G State 8 Lab ID: 2009B06-001	Client Sample ID: SS20-01 0-0.5           Collection Date: 9/16/2020 10:20:00 AM           Matrix: SOIL         Received Date: 9/18/2020 8:00:00 AM								
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analyst:	MRA			
Chloride	90	60	mg/Kg	20	9/24/2020 11:53:23 PM	55435			
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst:	BRM			
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/22/2020 4:51:24 PM	55318			
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/22/2020 4:51:24 PM	55318			
Surr: DNOP	94.0	30.4-154	%Rec	1	9/22/2020 4:51:24 PM	55318			
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst:	NSB			
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/22/2020 10:32:10 PM	55300			
Surr: BFB	87.2	75.3-105	%Rec	1	9/22/2020 10:32:10 PM	55300			
EPA METHOD 8021B: VOLATILES					Analyst:	NSB			
Benzene	ND	0.024	mg/Kg	1	9/22/2020 10:32:10 PM	55300			
Toluene	ND	0.049	mg/Kg	1	9/22/2020 10:32:10 PM	55300			
Ethylbenzene	ND	0.049	mg/Kg	1	9/22/2020 10:32:10 PM	55300			
Xylenes, Total	ND	0.097	mg/Kg	1	9/22/2020 10:32:10 PM	55300			
Surr: 4-Bromofluorobenzene	99.6	80-120	%Rec	1	9/22/2020 10:32:10 PM	55300			

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 14

#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009B06

Date Reported: 9/28/2020

CLIENT: Devon Energy Client Sample ID: SS20-02 0-0.5										
Project:	Todd 36G State 8	<b>Collection Date:</b> 9/16/2020 11:50:00 AM								
Lab ID:	2009B06-002	Matrix: SOIL	Matrix: SOIL         Received Date: 9/18/2020 8:00:00 AM							
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch		
EPA MET	HOD 300.0: ANIONS						Analyst	MRA		
Chloride		220	60		mg/Kg	20	9/25/2020 12:55:25 AM	55435		
EPA MET	HOD 8015M/D: DIESEL RANG	E ORGANICS					Analyst	BRM		
Diesel Ra	ange Organics (DRO)	93	46		mg/Kg	5	9/23/2020 1:48:01 PM	55318		
Motor Oi	Range Organics (MRO)	430	230		mg/Kg	5	9/23/2020 1:48:01 PM	55318		
Surr: [	DNOP	110	30.4-154		%Rec	5	9/23/2020 1:48:01 PM	55318		
EPA MET	HOD 8015D: GASOLINE RANG	E					Analyst	NSB		
Gasoline	Range Organics (GRO)	ND	24	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300		
Surr: E	3FB	83.9	75.3-105	D	%Rec	5	9/22/2020 11:42:59 PM	55300		
EPA MET	HOD 8021B: VOLATILES						Analyst	NSB		
Benzene		ND	0.12	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300		
Toluene		ND	0.24	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300		
Ethylben	zene	ND	0.24	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300		
Xylenes,	Total	ND	0.49	D	mg/Kg	5	9/22/2020 11:42:59 PM	55300		
Surr: 4	1-Bromofluorobenzene	99.8	80-120	D	%Rec	5	9/22/2020 11:42:59 PM	55300		

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range RL Reporting Limit
- Page 2 of 14

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009B06

Date Reported: 9/28/2020

CLIENT:	Devon Energy	Client Sample ID: SS20-03 0-0.5								
Project:	Todd 36G State 8	Collection Date: 9/16/2020 12:11:00 PM								
Lab ID: 2009B06-003		Matrix: SOIL		<b>Received Date</b>	<b>e:</b> 9/1	8/2020 8:00:00 AM				
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch			
EPA MET	THOD 300.0: ANIONS					Analyst	MRA			
Chloride		ND	60	mg/Kg	20	9/25/2020 1:07:49 AM	55435			
EPA MET	HOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM			
Diesel R	ange Organics (DRO)	ND	8.5	mg/Kg	1	9/22/2020 5:10:52 PM	55318			
Motor Oil Range Organics (MRO)		ND	43	mg/Kg	1	9/22/2020 5:10:52 PM	55318			
Surr: [	DNOP	90.1	30.4-154	%Rec	1	9/22/2020 5:10:52 PM	55318			
EPA MET	THOD 8015D: GASOLINE RANGE					Analyst	NSB			
Gasoline	e Range Organics (GRO)	ND	4.6	mg/Kg	1	9/23/2020 1:16:51 AM	55300			
Surr: E	BFB	90.7	75.3-105	%Rec	1	9/23/2020 1:16:51 AM	55300			
EPA MET	THOD 8021B: VOLATILES					Analyst	NSB			
Benzene	)	ND	0.023	mg/Kg	1	9/23/2020 1:16:51 AM	55300			
Toluene		ND	0.046	mg/Kg	1	9/23/2020 1:16:51 AM	55300			
Ethylben	izene	ND	0.046	mg/Kg	1	9/23/2020 1:16:51 AM	55300			
Xylenes,	Total	ND	0.092	mg/Kg	1	9/23/2020 1:16:51 AM	55300			
Surr: 4	4-Bromofluorobenzene	100	80-120	%Rec	1	9/23/2020 1:16:51 AM	55300			

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Hall	<b>Environme</b>	ntal Ana	alvsis L	aboratory.	Inc.

Lab Order 2009B06

Date Reported: 9/28/2020

CLIENT:	Devon Energy		Cl	ient S	ample II	D: SS	20-04 0-0.5		
Project:	Todd 36G State 8		(	Collect	tion Dat	<b>e:</b> 9/1	6/2020 10:27:00 AM		
Lab ID:	2009B06-004	Matrix: SOIL	Received Date: 9/18/2020 8:00:00 AM						
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch	
EPA MET	HOD 300.0: ANIONS						Analyst	MRA	
Chloride		ND	60		mg/Kg	20	9/25/2020 1:20:14 AM	55435	
EPA MET	HOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst	BRM	
Diesel Ra	ange Organics (DRO)	700	200		mg/Kg	20	9/22/2020 5:20:45 PM	55318	
Motor Oil	I Range Organics (MRO)	2200	990		mg/Kg	20	9/22/2020 5:20:45 PM	55318	
Surr: E	DNOP	0	30.4-154	S	%Rec	20	9/22/2020 5:20:45 PM	55318	
EPA MET	HOD 8015D: GASOLINE RANG	E					Analyst	: NSB	
Gasoline	Range Organics (GRO)	ND	24	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300	
Surr: E	3FB	87.7	75.3-105	D	%Rec	5	9/23/2020 1:40:26 AM	55300	
EPA MET	HOD 8021B: VOLATILES						Analyst	: NSB	
Benzene		ND	0.12	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300	
Toluene		ND	0.24	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300	
Ethylben	zene	ND	0.24	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300	
Xylenes,	Total	ND	0.49	D	mg/Kg	5	9/23/2020 1:40:26 AM	55300	
Surr: 4	1-Bromofluorobenzene	98.4	80-120	D	%Rec	5	9/23/2020 1:40:26 AM	55300	

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н 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

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: 4-Bromofluorobenzene

**Analytical Report** 

#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009B06

Date Reported: 9/28/2020

9/23/2020 2:04:02 AM 55300

CLIENT:	Devon Energy	Client Sample ID: SS20-05 0-0.5								
Project:	Todd 36G State 8		(	Collection Dat	e: 9/1	6/2020 2:15:00 PM				
Lab ID:	2009B06-005	Matrix: SOIL		<b>Received Dat</b>	e: 9/1	8/2020 8:00:00 AM				
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch			
EPA MET	THOD 300.0: ANIONS					Analyst	MRA			
Chloride		ND	59	mg/Kg	20	9/25/2020 1:32:39 AM	55435			
EPA MET	THOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM			
Diesel Range Organics (DRO)		ND	9.8	mg/Kg	1	9/22/2020 5:30:40 PM	55318			
Motor Oil Range Organics (MRO)		ND	49	mg/Kg	1	9/22/2020 5:30:40 PM	55318			
Surr: I	DNOP	74.3	30.4-154	%Rec	1	9/22/2020 5:30:40 PM	55318			
EPA MET	THOD 8015D: GASOLINE RANGE	E				Analyst	: NSB			
Gasoline	e Range Organics (GRO)	ND	4.8	mg/Kg	1	9/23/2020 2:04:02 AM	55300			
Surr: I	BFB	89.5	75.3-105	%Rec	1	9/23/2020 2:04:02 AM	55300			
EPA MET	THOD 8021B: VOLATILES					Analyst	: NSB			
Benzene	9	ND	0.024	mg/Kg	1	9/23/2020 2:04:02 AM	55300			
Toluene		ND	0.048	mg/Kg	1	9/23/2020 2:04:02 AM	55300			
Ethylben	izene	ND	0.048	mg/Kg	1	9/23/2020 2:04:02 AM	55300			
Xylenes,	Total	ND	0.097	mg/Kg	1	9/23/2020 2:04:02 AM	55300			

102

80-120

%Rec

1

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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 2009B06

Date Reported: 9/28/2020

CLIENT:	Devon Energy	Client Sample ID: BH20-01 0'						
Project:	Todd 36G State 8		(	Collect	tion Dat	<b>e:</b> 9/1	16/2020 12:05:00 PM	
Lab ID:	2009B06-006	Matrix: SOIL		Recei	ved Dat	<b>e:</b> 9/1	18/2020 8:00:00 AM	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	THOD 300.0: ANIONS						Analyst	MRA
Chloride		500	59		mg/Kg	20	9/25/2020 1:45:03 AM	55435
EPA MET	THOD 8015M/D: DIESEL RAN	IGE ORGANICS					Analyst	BRM
Diesel Range Organics (DRO)		600	190		mg/Kg	20	9/23/2020 2:11:48 PM	55318
Motor Oil Range Organics (MRO)		3500	960		mg/Kg	20	9/23/2020 2:11:48 PM	55318
Surr: DNOP		0	30.4-154	S	%Rec	20	9/23/2020 2:11:48 PM	55318
ЕРА МЕТ	THOD 8015D: GASOLINE RAI	NGE					Analyst	NSB
Gasoline	e Range Organics (GRO)	ND	23	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Surr: E	BFB	84.4	75.3-105	D	%Rec	5	9/23/2020 2:27:37 AM	55300
ЕРА МЕТ	THOD 8021B: VOLATILES						Analyst	NSB
Benzene	)	ND	0.11	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Toluene		ND	0.23	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Ethylben	izene	ND	0.23	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Xylenes,	Total	ND	0.46	D	mg/Kg	5	9/23/2020 2:27:37 AM	55300
Surr: 4	4-Bromofluorobenzene	96.2	80-120	D	%Rec	5	9/23/2020 2:27:37 AM	55300

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order 2009B06

Date Reported: 9/28/2020

CLIENT:	Devon Energy	Client Sample ID: BH20-01 0-1.5'								
Project:	Todd 36G State 8		(	Collection Dat	<b>e:</b> 9/1	6/2020 12:24:00 PM				
Lab ID:	2009B06-007	Matrix:         SOIL         Received Date: 9/18/2020 8:00:00 AM								
Analyses		Result	RL Qual Units DF Date			Date Analyzed	Batch			
EPA MET	THOD 300.0: ANIONS					Analyst	MRA			
Chloride		140	61	mg/Kg	20	9/25/2020 1:57:27 AM	55435			
EPA MET	THOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM			
Diesel R	ange Organics (DRO)	ND	9.5	mg/Kg	1	9/22/2020 5:50:37 PM	55318			
Motor Oil Range Organics (MRO)		ND	48	mg/Kg	1	9/22/2020 5:50:37 PM	55318			
Surr: I	DNOP	123	30.4-154	%Rec	1	9/22/2020 5:50:37 PM	55318			
ΕΡΑ ΜΕΊ	THOD 8015D: GASOLINE RANGE					Analyst	: NSB			
Gasoline	e Range Organics (GRO)	ND	4.9	mg/Kg	1	9/23/2020 2:51:04 AM	55300			
Surr: I	BFB	88.8	75.3-105	%Rec	1	9/23/2020 2:51:04 AM	55300			
ΕΡΑ ΜΕΊ	THOD 8021B: VOLATILES					Analyst	: NSB			
Benzene	9	ND	0.024	mg/Kg	1	9/23/2020 2:51:04 AM	55300			
Toluene		ND	0.049	mg/Kg	1	9/23/2020 2:51:04 AM	55300			
Ethylben	izene	ND	0.049	mg/Kg	1	9/23/2020 2:51:04 AM	55300			
Xylenes,	Total	ND	0.097	mg/Kg	1	9/23/2020 2:51:04 AM	55300			
Surr: 4	4-Bromofluorobenzene	101	80-120	%Rec	1	9/23/2020 2:51:04 AM	55300			

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.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

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Lab Order 2009B06

Date Reported: 9/28/2020

CLIENT: I	Devon Energy	Client Sample ID: BH20-03 0'									
Project: 1	Fodd 36G State 8	Collection Date: 9/16/2020 1:10:00 PM									
Lab ID: 2	2009B06-008	Matrix: SOIL		Received Date	e: 9/1	8/2020 8:00:00 AM					
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch				
EPA METH	OD 300.0: ANIONS					Analyst	ЈМТ				
Chloride		2400	150	mg/Kg	50	9/25/2020 6:14:14 PM	55435				
EPA METH	OD 8015M/D: DIESEL RANGE (	ORGANICS				Analyst	BRM				
Diesel Ran	ge Organics (DRO)	310	8.5	mg/Kg	1	9/23/2020 2:35:43 PM	55318				
Motor Oil F	Range Organics (MRO)	430	43	mg/Kg	1	9/23/2020 2:35:43 PM	55318				
Surr: DN	IOP	114	30.4-154	%Rec	1	9/23/2020 2:35:43 PM	55318				
EPA METH	OD 8015D: GASOLINE RANGE					Analyst	NSB				
Gasoline R	ange Organics (GRO)	ND	4.6	mg/Kg	1	9/23/2020 3:14:30 AM	55300				
Surr: BF	В	86.9	75.3-105	%Rec	1	9/23/2020 3:14:30 AM	55300				
EPA METH	OD 8021B: VOLATILES					Analyst	NSB				
Benzene		ND	0.023	mg/Kg	1	9/23/2020 3:14:30 AM	55300				
Toluene		ND	0.046	mg/Kg	1	9/23/2020 3:14:30 AM	55300				
Ethylbenze	ene	ND	0.046	mg/Kg	1	9/23/2020 3:14:30 AM	55300				
Xylenes, T	otal	ND	0.093	mg/Kg	1	9/23/2020 3:14:30 AM	55300				
Surr: 4-E	Bromofluorobenzene	99.3	80-120	%Rec	1	9/23/2020 3:14:30 AM	55300				

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

**Qualifiers:** 

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- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
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- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Lab Order 2009B06

Date Reported: 9/28/2020

CLIENT:	Devon Energy	Client Sample ID: BH20-03 3.5'							
Project:	Todd 36G State 8		(	Collection Dat	e: 9/1	6/2020 1:25:00 PM			
Lab ID:	2009B06-009	Matrix: SOIL		<b>Received Date</b>	e: 9/1	8/2020 8:00:00 AM			
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 300.0: ANIONS					Analyst	JMT		
Chloride		3000	150	mg/Kg	50	9/25/2020 6:26:38 PM	55435		
EPA MET	THOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM		
Diesel R	ange Organics (DRO)	ND	9.9	mg/Kg	1	9/22/2020 6:10:38 PM	55318		
Motor Oi	I Range Organics (MRO)	ND	50	mg/Kg	1	9/22/2020 6:10:38 PM	55318		
Surr: [	DNOP	98.3	30.4-154	%Rec	1	9/22/2020 6:10:38 PM	55318		
ЕРА МЕТ	THOD 8015D: GASOLINE RANGE	E				Analyst	NSB		
Gasoline	e Range Organics (GRO)	ND	4.9	mg/Kg	1	9/23/2020 3:37:57 AM	55300		
Surr: E	BFB	93.4	75.3-105	%Rec	1	9/23/2020 3:37:57 AM	55300		
ЕРА МЕТ	THOD 8021B: VOLATILES					Analyst	NSB		
Benzene	)	ND	0.024	mg/Kg	1	9/23/2020 3:37:57 AM	55300		
Toluene		ND	0.049	mg/Kg	1	9/23/2020 3:37:57 AM	55300		
Ethylben	izene	ND	0.049	mg/Kg	1	9/23/2020 3:37:57 AM	55300		
Xylenes,	Total	ND	0.097	mg/Kg	1	9/23/2020 3:37:57 AM	55300		
Surr: 4	4-Bromofluorobenzene	100	80-120	%Rec	1	9/23/2020 3:37:57 AM	55300		

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

**Qualifiers:** 

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- PQL Practical Quanitative Limit
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- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Client: Project:	Devor Todd	1 Energy 36G State 8									
Sample ID: MB-55435     SampType: mblk     TestCode: EPA Method 300.0: Anions											
Client ID:	t ID: PBS Batch ID: 55435 RunNo: 72148										
Prep Date:	9/24/2020	Analysis D	ate: 9/	24/2020	S	eqNo: 25	529091	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID:	LCS-55435	SampT	ype: Ics	5	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch	1D: 55	435	R	unNo: 72	2148				
Prep Date:	9/24/2020	Analysis D	ate: 9/	24/2020	S	eqNo: 25	529092	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	92.4	90	110			

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2009B06

28-Sep-20

WO#:
# **QC SUMMARY REPORT** Hall Envi

	WO#:	2009B06
ronmental Analysis Laboratory, Inc.		28-Sep-20

Client: Project:	Devon E Todd 36	nergy G State 8								
Sample ID:	LCS-55297	SampType:	LCS	Tes	tCode: EF	A Method	8015M/D: Die	sel Range	e Organics	
Client ID:	LCSS	Batch ID:	55297	R	unNo: 72	2063				
Prep Date:	9/21/2020	Analysis Date:	9/22/2020	S	eqNo: 25	524681	Units: %Rec			
Analyte		Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		7.7	5.000		154	30.4	154			
Sample ID:	LCS-55318	SampType:	LCS	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	e Organics	
Client ID:	LCSS	Batch ID:	55318	R	unNo: 72	2063				
Prep Date:	9/21/2020	Analysis Date:	9/22/2020	S	eqNo: 25	524682	Units: mg/K	g		
Analyte		Result PO	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	60	10 50.00	0	119	70	130			
Surr: DNOP		3.7	5.000		74.6	30.4	154			
Sample ID:	LCS-55322	SampType:	LCS	Tes	tCode: EF	A Method	8015M/D: Die	sel Range	e Organics	
Client ID:	LCSS	Batch ID:	55322	R	unNo: 72	2063				
Prep Date:	9/21/2020	Analysis Date:	9/22/2020	S	eqNo: 25	524684	Units: %Rec			
Analyte		Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.0	5.000		80.5	30.4	154			
Sample ID:	LCS-55325	SampType:	LCS	Tes	tCode: EP	PA Method	8015M/D: Die	sel Range	e Organics	
Client ID:	LCSS	Batch ID:	55325	R	unNo: 72	2063				
Prep Date:	9/21/2020	Analysis Date:	9/23/2020	S	eqNo: 25	524685	Units: %Rec			
Analyte		Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.6	5.000		92.7	30.4	154			
Sample ID:	MB-55297	SampType:	MBLK	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	e Organics	
Client ID:	PBS	Batch ID:	55297	R	lunNo: 72	2063				
Prep Date:	9/21/2020	Analysis Date:	9/22/2020	S	SeqNo: 25	524686	Units: %Rec			
Analyte		Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	1	13	10.00		127	30.4	154			
Sample ID:	MB-55318	SampType:	MBLK	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	e Organics	
Client ID:	PBS	Batch ID:	55318	R	unNo: 72	2063				
Prep Date:	9/21/2020	Analysis Date:	9/22/2020	S	eqNo: 25	524687	Units: mg/K	g		
Analyte		Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	ND	10							
Motor Oil Rang	ge Organics (MRO)	ND	50							
Surr: DNOP		7.2	10.00		72.3	30.4	154			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level. \*
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit PQL
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Result

PQL

WO#:

RPDLimit

Qual

QU DU Hall En	WO#:	2009B06 28-Sep-20					
Client: Project:	Devor Todd	n Energy 36G State 8					
Sample ID:	MB-55322	SampType: N	MBLK	TestCode:	EPA Method	8015M/D: Diesel Range Organics	
Client ID:	PBS	Batch ID: 5	55322	RunNo:	72063		
Prep Date:	9/21/2020	Analysis Date:	9/22/2020	SeqNo:	2524688	Units: %Rec	

LowLimit

HighLimit

%RPD

Surr: DNOP	8.6	10.00		86.2	30.4	154			
Sample ID: MB-55325	SampType	: MBLK	Tes	tCode: EF	PA Method	8015M/D: Die	sel Rang	e Organics	
Client ID: PBS	Batch ID	55325	F	RunNo: 72	2063				
Prep Date: 9/21/2020	Analysis Date	: <b>9/22/2020</b>	S	SeqNo: 25	524689	Units: %Rec	;		
Analyte	Result F	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1	10.00		90.9	30.4	154			

SPK value SPK Ref Val %REC

#### **Qualifiers:**

Analyte

- Value exceeds Maximum Contaminant Level. \*
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Client: Dev Project: Tod	on Energy ld 36G State 8										
			_							-	
Sample ID: mb-55300	SampType	: MBLK	Tes	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID	: 55300	F	RunNo: 72	2044						
Prep Date: 9/21/2020	Analysis Date	: <b>9/23/2020</b>	S	SeqNo: 2	523843	Units: mg/K	g				
Analyte	Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GR	0) ND	5.0									
Surr: BFB	850	1000		84.9	75.3	105					
Sample ID: Ics-55300	SampType	e: LCS	Tes	tCode: EF	PA Method	8015D: Gaso	line Range	9			
Client ID: LCSS	Batch ID	55300	F	RunNo: 72	2044						
Prep Date: 9/21/2020	Analysis Date	: <b>9/22/2020</b>	S	SeqNo: 2	523844	Units: mg/K	g				
Analyte	Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GR	0) 23	5.0 25.00	0	90.4	72.5	106					
Surr: BFB	960	1000		96.0	75.3	105					

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 13 of 14

2009B06

28-Sep-20

WO#:

#### Value above quantitation range

Devon Energy

**Client:** 

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Project:	Todd 360	G State 8										
Sample ID:	mb-55300	SampT	Гуре: <b>МЕ</b>	BLK	Tes	TestCode: EPA Method 8021B: Volatiles						
Client ID:	PBS	Batc	h ID: 55:	300	R	unNo: 7						
Prep Date:	9/21/2020	Analysis E	Date: <b>9/</b> 2	23/2020	S	eqNo: 2	523891	Units: mg/K	íg			
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-Brom	nofluorobenzene	1.0		1.000		102	80	120				
Sample ID:	LCS-55300	SampT	Гуре: <b>LC</b>	s	Tes	tCode: El	PA Method	8021B: Volat	iles			
Client ID:	LCSS	Batc	h ID: 55:	300	R	tunNo: 7	2044					
Prep Date:	9/21/2020	Analysis E	Date: <b>9/</b> 2	22/2020	S	eqNo: 2	523892	Units: mg/K	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.89	0.025	1.000	0	89.2	80	120				
Toluene		0.92	0.050	1.000	0	91.6	80	120				
Ethylbenzene		0.93	0.050	1.000	0	92.8	80	120				
Xylenes, Total		2.8	0.10	3.000	0	92.9	80	120				
Surr: 4-Brom	nofluorobenzene	1.0		1.000		101	80	120				
Sample ID:	2009b06-001ams	SampT	Гуре: <b>МS</b>	;	Tes	tCode: El	PA Method	8021B: Volat	iles			
Client ID:	SS20-01 0-0.5	Batc	h ID: 55:	300	R	unNo: 7	2044					
Prep Date:	9/21/2020	Analysis [	Date: <b>9/</b> 2	22/2020	S	eqNo: 2	523894	Units: mg/K	íg			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.91	0.024	0.9533	0	95.4	76.3	120				
Toluene		0.96	0.048	0.9533	0	101	78.5	120				
Ethylbenzene		0.99	0.048	0.9533	0	104	78.1	124				
Xylenes, Total		3.0	0.095	2.860	0	104	79.3	125				
Surr: 4-Brom	nofluorobenzene	0.96		0.9533		101	80	120				
Sample ID:	2009b06-001amsd	I Samp1	Гуре: <b>МS</b>	D	Tes	tCode: El	PA Method	8021B: Volat	iles			
Client ID:	SS20-01 0-0.5	Batc	h ID: 55	300	R	unNo: 7	2044					
Prep Date:	9/21/2020	Analysis E	Date: <b>9/</b> 2	22/2020	S	eqNo: 2	523895	Units: <b>mg/K</b>	g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.94	0.025	0.9814	0	95.9	76.3	120	3.45	20		
Toluene		0.99	0.049	0.9814	0	101	78.5	120	3.24	20		
Ethylbenzene		1.0	0.049	0.9814	0	104	78.1	124	2.79	20		
Xylenes, Total		3.1	0.098	2.944	0	104	79.3	125	2.89	20		
Surr: 4-Brom	nofluorobenzene	0.99		0.9814		101	80	120	0	0		

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

2009B06

28-Sep-20

WO#:

HALL ENVII ANAL LABO	HALL ENVIRONMENTAL ANALYSIS LABORATORY		Ha. TE W	ll Environment A L: 505-345-39 Tebsite: clients.	al Analysi 4901 Ibuquerqu 75 FAX: 5 hallenvirc	s Laborato Hawkins e, NM 871 05-345-41 nmental.c	NE 109 107 107	iple Log-In (	Check List
Client Name:	Devon Ene	ergy	Work	Order Numb	er: 2009	306		RcptNo	p: 1
Received By:	Cheyenne	e Cason	9/18/20	20 8:00:00 A	м				
Completed By:	Juan Roja	as 1	9/18/20	20 9:54:56 A	м		Guarda &		
nononou by:									
Chain of Cus	stody								
1. Is Chain of C	Custody comp	olete?			Yes	<b>V</b>	No 🗌	Not Present	
2. How was the	e sample deliv	vered?			<u>Couri</u>	er			
Log In									
3. Was an atter	npt made to	cool the sampl	les?		Yes	~	No 🗌	NA 🗌	
4. Were all sam	ples received	d at a temperat	ture of >0° C	to 6.0°C	Yes	~	No 🗌		
5. Sample(s) in	proper conta	iner(s)?			Yes	<b>~</b>	No 🗌		
6. Sufficient san	nple volume t	for indicated te	est(s)?		Yes		No 🗌		
7. Are samples	(except VOA	and ONG) pro	perly preserve	ed?	Yes	/	No 🗌		
8. Was preserva	ative added to	bottles?			Yes [		No 🔽	NA 🗆	
9. Received at l	east 1 vial wil	th headspace	<1/4" for AQ V	OA?	Yes [		No 🗌	NA 🔽	1
10. Were any sa	mple contain	ers received b	roken?		Yes		No 🗹	# of preserved	
11. Does paperw (Note discrep	ork match bo ancies on ch	ttle labels? ain of custody)	)		Yes [		No 🗆	bottles checked for pH:	r >12 unless noted)
12. Are matrices	correctly ider	ntified on Chair	n of Custody?		Yes	/	No 🗌	Adjusted?	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
13. Is it clear what	at analyses w	ere requested	?		Yes		No 🗌	/	Cur alialan
14. Were all hold (If no, notify c	ing times able customer for a	e to be met? authorization.)			Yes		No 🗌	Checked by:	an gisic
Special Hand	ling (if apı	olicable)						1	
15. Was client no	otified of all d	iscrepancies v	vith this order?	2	Yes		No 🗌	NA 🔽	
Person	Notified:			Date	1				
By Wh	om:			Via:	🗌 eMai	I 🗌 Ph	one 🗌 Fax	In Person	
Regard	ling:								
Client I	nstructions:								
16. Additional re	marks:								-
17. Cooler Info	rmation								
Cooler No	Temp ℃	Condition	Seal Intact	Seal No	Seal Da	e S	Signed By		
1	5.0	Good		4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1					
2	5.6	Good							
3	2.9	Good							

Page 1 of 1

Received by OCD:	4/23/2021 1	2:00:17 AM					Page 79 of 11
HALL ENVIRONMENT ANALYSIS LABORATC	Hawkins NE - Albuquerque, NM 87109 505-345-3975 Fax 505-345-4107 Analysis Request	59/802 PCB' 504.1) 0 r 8270SIMS 3, NO <sub>2</sub> , PO <sub>4</sub> , 60, 3, NO <sub>2</sub> , PO <sub>4</sub> , 60, (Present/Absent) (Present/Absent)	EDB (Method PAHs by 8310 RCRA 8 Meta CTFF, Br, NO 8260 (VOA) 8250 (VOA) 8270 (Semi-Vo 70tal Coliform	)*			N DUNT Order # 20801063
	4901 Tel.	КО / DRO / MRO)		メリ	-		emarks: BUU Norde
Turn-Around Time: 5 4 y	Project #: Project #: BOE DOILY	Project Manager: <i>D. Conden</i> Sampler: うな On Ice: ダYes □ No	# of Coolers: 3 Cooler Temp(including CF)Scc. & Sr & Pru (°C) Container Preservative HEAL No. Type and # Type 100 0100 0	402 1'ac -006	V V -0001		Received by: Via: Date Time R Received by: Via Date Time Date Time R Received by: Via C2W VIA C2W VIA
Client: Contending Record	Phone #:	email or Fax#: QA/QC Package:	Date Time Matrix Sample Name	9-16:20 0' BH20-03	1:25 3.5 13420-03		Date:     Time:     Relinquished by:       9-16     600     600       Date:     Time:     Relinquished by:       Date:     Time:     Relinquished by:       1171:00     1900     0,000       1171:00     1900     0,000       1171:00     1900     0,000



December 11, 2020

Natalie Gordon Devon Energy 6488 Seven Rivers Highway Artesia, NM 88210 TEL: (505) 350-1336 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

OrderNo.: 2012243

RE: Todd 36 G State 8

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 14 sample(s) on 12/4/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Project:** 

Lab ID:

Todd 36 G State 8

2012243-001

Analytical Report Lab Order 2012243

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/11/2020 Client Sample ID: BS20-01 0.5' Collection Date: 12/1/2020 9:30:00 AM

Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGAN	NICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	12/8/2020 11:45:34 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/8/2020 11:45:34 AM
Surr: DNOP	114	30.4-154	%Rec	1	12/8/2020 11:45:34 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	ND	60	mg/Kg	20	12/9/2020 7:46:54 PM
EPA METHOD 8260B: VOLATILES SHORT LIST					Analyst: DJF
Benzene	ND	0.025	mg/Kg	1	12/6/2020 6:44:11 AM
Toluene	ND	0.050	mg/Kg	1	12/6/2020 6:44:11 AM
Ethylbenzene	ND	0.050	mg/Kg	1	12/6/2020 6:44:11 AM
Xylenes, Total	ND	0.10	mg/Kg	1	12/6/2020 6:44:11 AM
Surr: 1,2-Dichloroethane-d4	88.4	70-130	%Rec	1	12/6/2020 6:44:11 AM
Surr: 4-Bromofluorobenzene	99.3	70-130	%Rec	1	12/6/2020 6:44:11 AM
Surr: Dibromofluoromethane	99.3	70-130	%Rec	1	12/6/2020 6:44:11 AM
Surr: Toluene-d8	98.6	70-130	%Rec	1	12/6/2020 6:44:11 AM
EPA METHOD 8015D MOD: GASOLINE RANGE					Analyst: DJF
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/6/2020 6:44:11 AM
Surr: BFB	99.8	70-130	%Rec	1	12/6/2020 6:44:11 AM

Matrix: SOIL

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

Page 1 of 22

Project: Todd 36 G State 8

**Analytical Report** Lab Order 2012243

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/11/2020 Client Sample ID: BS20-02 0.5' Collection Date: 12/1/2020 11:00:00 AM Dessived Data: 12/4/2020 8:00:00 AM

Lab ID: 2012243-002	Matrix: SOIL	<b>Received Date:</b> 12/4/2020 8:00:00 AM						
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS				Analyst: BRM			
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/8/2020 11:55:16 AM			
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/8/2020 11:55:16 AM			
Surr: DNOP	113	30.4-154	%Rec	1	12/8/2020 11:55:16 AM			
EPA METHOD 300.0: ANIONS					Analyst: CAS			
Chloride	ND	59	mg/Kg	20	12/9/2020 8:24:08 PM			
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst: DJF			
Benzene	ND	0.025	mg/Kg	1	12/6/2020 7:11:35 AM			
Toluene	ND	0.050	mg/Kg	1	12/6/2020 7:11:35 AM			
Ethylbenzene	ND	0.050	mg/Kg	1	12/6/2020 7:11:35 AM			
Xylenes, Total	ND	0.099	mg/Kg	1	12/6/2020 7:11:35 AM			
Surr: 1,2-Dichloroethane-d4	93.4	70-130	%Rec	1	12/6/2020 7:11:35 AM			
Surr: 4-Bromofluorobenzene	99.1	70-130	%Rec	1	12/6/2020 7:11:35 AM			
Surr: Dibromofluoromethane	104	70-130	%Rec	1	12/6/2020 7:11:35 AM			
Surr: Toluene-d8	98.0	70-130	%Rec	1	12/6/2020 7:11:35 AM			
EPA METHOD 8015D MOD: GASOLI	NE RANGE				Analyst: DJF			
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/6/2020 7:11:35 AM			
Surr: BFB	98.1	70-130	%Rec	1	12/6/2020 7:11:35 AM			

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 2 of 22

Project: Todd 36 G State 8

Analytical Report Lab Order 2012243

Date Reported: 12/11/2020

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS20-03 0.5' Collection Date: 12/1/2020 9:40:00 AM Received Date: 12/4/2020 8:00:00 AM

Lab ID: 2012243-003	Matrix: SOIL	Received Date: 12/4/2020 8:00:00 AM						
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS				Analyst: BRM			
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/8/2020 12:05:00 PM			
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/8/2020 12:05:00 PM			
Surr: DNOP	87.8	30.4-154	%Rec	1	12/8/2020 12:05:00 PM			
EPA METHOD 300.0: ANIONS					Analyst: CAS			
Chloride	ND	60	mg/Kg	20	12/9/2020 8:36:32 PM			
EPA METHOD 8260B: VOLATILES SH	IORT LIST				Analyst: DJF			
Benzene	ND	0.025	mg/Kg	1	12/6/2020 7:38:50 AM			
Toluene	ND	0.050	mg/Kg	1	12/6/2020 7:38:50 AM			
Ethylbenzene	ND	0.050	mg/Kg	1	12/6/2020 7:38:50 AM			
Xylenes, Total	ND	0.10	mg/Kg	1	12/6/2020 7:38:50 AM			
Surr: 1,2-Dichloroethane-d4	90.8	70-130	%Rec	1	12/6/2020 7:38:50 AM			
Surr: 4-Bromofluorobenzene	104	70-130	%Rec	1	12/6/2020 7:38:50 AM			
Surr: Dibromofluoromethane	103	70-130	%Rec	1	12/6/2020 7:38:50 AM			
Surr: Toluene-d8	98.1	70-130	%Rec	1	12/6/2020 7:38:50 AM			
EPA METHOD 8015D MOD: GASOLIN	IE RANGE				Analyst: DJF			
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/6/2020 7:38:50 AM			
Surr: BFB	100	70-130	%Rec	1	12/6/2020 7:38:50 AM			

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level.
   D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 22

Project: Todd 36 G State 8

Analytical Report Lab Order 2012243

Date Reported: 12/11/2020

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS20-04 0.5' Collection Date: 12/1/2020 9:50:00 AM Received Date: 12/4/2020 8:00:00 AM

Lab ID: 2012243-004	Matrix: SOIL	<b>Received Date:</b> 12/4/2020 8:00:00 AM					
Analyses	Result	RL Qual Units		DF	Date Analyzed		
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS				Analyst: BRM		
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	12/8/2020 12:14:45 PM		
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/8/2020 12:14:45 PM		
Surr: DNOP	110	30.4-154	%Rec	1	12/8/2020 12:14:45 PM		
EPA METHOD 300.0: ANIONS					Analyst: CAS		
Chloride	ND	59	mg/Kg	20	12/9/2020 9:13:46 PM		
EPA METHOD 8260B: VOLATILES SH	HORT LIST				Analyst: DJF		
Benzene	ND	0.025	mg/Kg	1	12/6/2020 8:06:00 AM		
Toluene	ND	0.050	mg/Kg	1	12/6/2020 8:06:00 AM		
Ethylbenzene	ND	0.050	mg/Kg	1	12/6/2020 8:06:00 AM		
Xylenes, Total	ND	0.099	mg/Kg	1	12/6/2020 8:06:00 AM		
Surr: 1,2-Dichloroethane-d4	93.1	70-130	%Rec	1	12/6/2020 8:06:00 AM		
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	12/6/2020 8:06:00 AM		
Surr: Dibromofluoromethane	106	70-130	%Rec	1	12/6/2020 8:06:00 AM		
Surr: Toluene-d8	97.8	70-130	%Rec	1	12/6/2020 8:06:00 AM		
EPA METHOD 8015D MOD: GASOLIN	IE RANGE				Analyst: DJF		
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/6/2020 8:06:00 AM		
Surr: BFB	97.6	70-130	%Rec	1	12/6/2020 8:06:00 AM		

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 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

Page 4 of 22

Todd 36 G State 8

**Project:** 

Analytical Report Lab Order 2012243

Date Reported: 12/11/2020

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS20-05 0.5' Collection Date: 12/2/2020 12:00:00 PM Received Date: 12/4/2020 8:00:00 AM

Lab ID: 2012243-005	Matrix: SOIL	<b>Received Date:</b> 12/4/2020 8:00:00 AM					
Analyses	Result	RL Qu	al Units	DF	Date Analyzed		
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: <b>mb</b>		
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	12/7/2020 9:42:39 AM		
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/7/2020 9:42:39 AM		
Surr: DNOP	99.9	30.4-154	%Rec	1	12/7/2020 9:42:39 AM		
EPA METHOD 300.0: ANIONS					Analyst: CAS		
Chloride	120	60	mg/Kg	20	12/9/2020 9:26:11 PM		
EPA METHOD 8260B: VOLATILES SHOP	RT LIST				Analyst: DJF		
Benzene	ND	0.024	mg/Kg	1	12/5/2020 9:04:33 PM		
Toluene	ND	0.048	mg/Kg	1	12/5/2020 9:04:33 PM		
Ethylbenzene	ND	0.048	mg/Kg	1	12/5/2020 9:04:33 PM		
Xylenes, Total	ND	0.096	mg/Kg	1	12/5/2020 9:04:33 PM		
Surr: 1,2-Dichloroethane-d4	108	70-130	%Rec	1	12/5/2020 9:04:33 PM		
Surr: 4-Bromofluorobenzene	103	70-130	%Rec	1	12/5/2020 9:04:33 PM		
Surr: Dibromofluoromethane	116	70-130	%Rec	1	12/5/2020 9:04:33 PM		
Surr: Toluene-d8	99.9	70-130	%Rec	1	12/5/2020 9:04:33 PM		
EPA METHOD 8015D MOD: GASOLINE	RANGE				Analyst: DJF		
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/5/2020 9:04:33 PM		
Surr: BFB	103	70-130	%Rec	1	12/5/2020 9:04:33 PM		

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level.
   D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 22

Todd 36 G State 8

**Project:** 

Analytical Report
Lab Order 2012243

Date Reported: 12/11/2020

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS20-06 0.5' Collection Date: 12/2/2020 12:10:00 PM Received Date: 12/4/2020 8:00:00 AM

Lab ID: 2012243-006	Matrix: SOIL	Received Date: 12/4/2020 8:00:00 AM				
Analyses	Result	RL Qual Units		DF	Date Analyzed	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: mb	
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/7/2020 10:10:56 AM	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/7/2020 10:10:56 AM	
Surr: DNOP	106	30.4-154	%Rec	1	12/7/2020 10:10:56 AM	
EPA METHOD 300.0: ANIONS					Analyst: CAS	
Chloride	ND	60	mg/Kg	20	12/9/2020 9:38:36 PM	
EPA METHOD 8260B: VOLATILES SHOR	T LIST				Analyst: DJF	
Benzene	ND	0.025	mg/Kg	1	12/6/2020 12:24:38 AM	
Toluene	ND	0.049	mg/Kg	1	12/6/2020 12:24:38 AM	
Ethylbenzene	ND	0.049	mg/Kg	1	12/6/2020 12:24:38 AM	
Xylenes, Total	ND	0.099	mg/Kg	1	12/6/2020 12:24:38 AM	
Surr: 1,2-Dichloroethane-d4	106	70-130	%Rec	1	12/6/2020 12:24:38 AM	
Surr: 4-Bromofluorobenzene	108	70-130	%Rec	1	12/6/2020 12:24:38 AM	
Surr: Dibromofluoromethane	115	70-130	%Rec	1	12/6/2020 12:24:38 AM	
Surr: Toluene-d8	95.5	70-130	%Rec	1	12/6/2020 12:24:38 AM	
EPA METHOD 8015D MOD: GASOLINE R	ANGE				Analyst: DJF	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/6/2020 12:24:38 AM	
Surr: BFB	104	70-130	%Rec	1	12/6/2020 12:24:38 AM	

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level.
   D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Todd 36 G State 8

2012243-007

**Project:** 

Lab ID:

**Analytical Report** Lab Order 2012243

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/11/2020 Client Sample ID: BS20-07 0.5' Collection Date: 12/2/2020 12:20:00 PM

Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGAN	NICS				Analyst: <b>mb</b>
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/7/2020 10:20:25 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/7/2020 10:20:25 AM
Surr: DNOP	95.5	30.4-154	%Rec	1	12/7/2020 10:20:25 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	ND	60	mg/Kg	20	12/9/2020 9:51:00 PM
EPA METHOD 8260B: VOLATILES SHORT LIST					Analyst: JMR
Benzene	ND	0.025	mg/Kg	1	12/6/2020 12:39:09 PM
Toluene	ND	0.049	mg/Kg	1	12/6/2020 12:39:09 PM
Ethylbenzene	ND	0.049	mg/Kg	1	12/6/2020 12:39:09 PM
Xylenes, Total	ND	0.099	mg/Kg	1	12/6/2020 12:39:09 PM
Surr: 1,2-Dichloroethane-d4	105	70-130	%Rec	1	12/6/2020 12:39:09 PM
Surr: 4-Bromofluorobenzene	100	70-130	%Rec	1	12/6/2020 12:39:09 PM
Surr: Dibromofluoromethane	107	70-130	%Rec	1	12/6/2020 12:39:09 PM
Surr: Toluene-d8	102	70-130	%Rec	1	12/6/2020 12:39:09 PM
EPA METHOD 8015D MOD: GASOLINE RANGE					Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/6/2020 12:39:09 PM
Surr: BFB	105	70-130	%Rec	1	12/6/2020 12:39:09 PM

Matrix: SOIL

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
- н Holding times for preparation or analysis exceeded
- ND
- Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Project: Todd 36 G State 8

**Analytical Report** Lab Order 2012243

Date Reported: 12/11/2020

#### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS20-08 2.5' Collection Date: 12/2/2020 12:30:00 PM

Lab ID: 2012243-008	Matrix: SOIL	<b>Received Date:</b> 12/4/2020 8:00:00 AM					
Analyses	Result	RL Qua	al Units	DF	Date Analyzed		
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: <b>mb</b>		
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	12/7/2020 10:29:55 AM		
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	12/7/2020 10:29:55 AM		
Surr: DNOP	95.7	30.4-154	%Rec	1	12/7/2020 10:29:55 AM		
EPA METHOD 300.0: ANIONS					Analyst: CAS		
Chloride	ND	60	mg/Kg	20	12/9/2020 10:03:24 PM		
EPA METHOD 8260B: VOLATILES SHORT	LIST				Analyst: JMR		
Benzene	ND	0.025	mg/Kg	1	12/6/2020 1:07:57 PM		
Toluene	ND	0.050	mg/Kg	1	12/6/2020 1:07:57 PM		
Ethylbenzene	ND	0.050	mg/Kg	1	12/6/2020 1:07:57 PM		
Xylenes, Total	ND	0.099	mg/Kg	1	12/6/2020 1:07:57 PM		
Surr: 1,2-Dichloroethane-d4	100	70-130	%Rec	1	12/6/2020 1:07:57 PM		
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	12/6/2020 1:07:57 PM		
Surr: Dibromofluoromethane	107	70-130	%Rec	1	12/6/2020 1:07:57 PM		
Surr: Toluene-d8	103	70-130	%Rec	1	12/6/2020 1:07:57 PM		
EPA METHOD 8015D MOD: GASOLINE RA	NGE				Analyst: JMR		
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/6/2020 1:07:57 PM		
Surr: BFB	108	70-130	%Rec	1	12/6/2020 1:07:57 PM		

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- н Holding times for preparation or analysis exceeded
- ND
- Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**Analytical Report** Lab Order 2012243

Date Reported: 12/11/2020

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Devon Energy Client Sample ID: WS20-01 0-0.5' **Project:** Todd 36 G State 8 Collection Date: 12/1/2020 10:30:00 AM Lab ID: 2012243-009 Matrix: SOIL Received Date: 12/4/2020 8:00:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: mb Diesel Range Organics (DRO) ND 9.9 mg/Kg 1 12/7/2020 10:39:26 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/7/2020 10:39:26 AM Surr: DNOP 106 30.4-154 %Rec 1 12/7/2020 10:39:26 AM **EPA METHOD 300.0: ANIONS** Analyst: CAS Chloride ND 12/9/2020 10:15:48 PM 60 mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: JMR Benzene ND 0.024 mg/Kg 12/6/2020 1:36:43 PM 1 Toluene ND 0.049 mg/Kg 12/6/2020 1:36:43 PM 1 Ethvlbenzene ND 0.049 mg/Kg 1 12/6/2020 1:36:43 PM Xylenes, Total ND 0.097 mg/Kg 1 12/6/2020 1:36:43 PM Surr: 1.2-Dichloroethane-d4 104 70-130 %Rec 1 12/6/2020 1:36:43 PM Surr: 4-Bromofluorobenzene 98.9 70-130 %Rec 1 12/6/2020 1:36:43 PM Surr: Dibromofluoromethane 70-130 %Rec 1 12/6/2020 1:36:43 PM 110 Surr: Toluene-d8 100 70-130 %Rec 1 12/6/2020 1:36:43 PM **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: JMR Gasoline Range Organics (GRO) ND mg/Kg 12/6/2020 1:36:43 PM 49 1 Surr: BFB 102 70-130 %Rec 1 12/6/2020 1:36:43 PM

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix Н Holding times for preparation or analysis exceeded
- ND
- Not Detected at the Reporting Limit POL
- Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Todd 36 G State 8

**Project:** 

Analytical Report
Lab Order 2012243

Date Reported: 12/11/2020

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WS20-02 0-0.5' Collection Date: 12/1/2020 10:10:00 AM Received Date: 12/4/2020 8:00:00 AM

Lab ID: 2012243-010	Matrix: SOIL	<b>Received Date:</b> 12/4/2020 8:00:00 AM				
Analyses	Result	RL Qua	l Units	DF	Date Analyzed	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: mb	
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	12/7/2020 10:48:59 AM	
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/7/2020 10:48:59 AM	
Surr: DNOP	89.9	30.4-154	%Rec	1	12/7/2020 10:48:59 AM	
EPA METHOD 300.0: ANIONS					Analyst: CAS	
Chloride	ND	60	mg/Kg	20	12/9/2020 10:28:13 PM	
EPA METHOD 8260B: VOLATILES SHOP	RT LIST				Analyst: JMR	
Benzene	ND	0.023	mg/Kg	1	12/6/2020 2:05:32 PM	
Toluene	ND	0.047	mg/Kg	1	12/6/2020 2:05:32 PM	
Ethylbenzene	ND	0.047	mg/Kg	1	12/6/2020 2:05:32 PM	
Xylenes, Total	ND	0.094	mg/Kg	1	12/6/2020 2:05:32 PM	
Surr: 1,2-Dichloroethane-d4	104	70-130	%Rec	1	12/6/2020 2:05:32 PM	
Surr: 4-Bromofluorobenzene	103	70-130	%Rec	1	12/6/2020 2:05:32 PM	
Surr: Dibromofluoromethane	109	70-130	%Rec	1	12/6/2020 2:05:32 PM	
Surr: Toluene-d8	100	70-130	%Rec	1	12/6/2020 2:05:32 PM	
EPA METHOD 8015D MOD: GASOLINE F	RANGE				Analyst: JMR	
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	12/6/2020 2:05:32 PM	
Surr: BFB	107	70-130	%Rec	1	12/6/2020 2:05:32 PM	

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level.
   D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: BFB

Todd 36 G State 8

**Project:** 

Analytical Report Lab Order 2012243

#### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/11/2020 Client Sample ID: WS20-03 0-0.5' Collection Date: 12/1/2020 12:40:00 PM Received Date: 12/4/2020 8:00:00 AM

Lab ID: 2012243-011 Matrix: SOIL Result **RL** Qual Units DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: mb Diesel Range Organics (DRO) ND 9.3 mg/Kg 1 12/7/2020 10:58:33 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 12/7/2020 10:58:33 AM Surr: DNOP 96.4 30.4-154 %Rec 1 12/7/2020 10:58:33 AM **EPA METHOD 300.0: ANIONS** Analyst: CAS Chloride 12/9/2020 10:40:38 PM 210 60 mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: JMR Benzene ND 0.025 mg/Kg 12/6/2020 2:34:24 PM 1 Toluene ND 0.049 mg/Kg 12/6/2020 2:34:24 PM 1 Ethvlbenzene ND 0.049 mg/Kg 1 12/6/2020 2:34:24 PM Xylenes, Total ND 0.098 mg/Kg 1 12/6/2020 2:34:24 PM Surr: 1.2-Dichloroethane-d4 104 70-130 %Rec 1 12/6/2020 2:34:24 PM Surr: 4-Bromofluorobenzene 102 70-130 %Rec 1 12/6/2020 2:34:24 PM Surr: Dibromofluoromethane 70-130 %Rec 1 12/6/2020 2:34:24 PM 112 Surr: Toluene-d8 103 70-130 %Rec 1 12/6/2020 2:34:24 PM **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: JMR Gasoline Range Organics (GRO) ND mg/Kg 12/6/2020 2:34:24 PM 49 1

108

70-130

%Rec

1

12/6/2020 2:34:24 PM

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to MatrixH 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

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**Project:** 

Lab ID:

Todd 36 G State 8

2012243-012

**Analytical Report** Lab Order 2012243

Date Reported: 12/11/2020

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WS20-04 0-0.5' Collection Date: 12/2/2020 12:50:00 PM Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	NICS				Analyst: mb
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/7/2020 11:08:04 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/7/2020 11:08:04 AM
Surr: DNOP	98.1	30.4-154	%Rec	1	12/7/2020 11:08:04 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	260	60	mg/Kg	20	12/9/2020 10:53:03 PM
EPA METHOD 8260B: VOLATILES SHORT LIST					Analyst: JMR
Benzene	ND	0.025	mg/Kg	1	12/6/2020 3:03:24 PM
Toluene	ND	0.050	mg/Kg	1	12/6/2020 3:03:24 PM
Ethylbenzene	ND	0.050	mg/Kg	1	12/6/2020 3:03:24 PM
Xylenes, Total	ND	0.10	mg/Kg	1	12/6/2020 3:03:24 PM
Surr: 1,2-Dichloroethane-d4	104	70-130	%Rec	1	12/6/2020 3:03:24 PM
Surr: 4-Bromofluorobenzene	102	70-130	%Rec	1	12/6/2020 3:03:24 PM
Surr: Dibromofluoromethane	113	70-130	%Rec	1	12/6/2020 3:03:24 PM
Surr: Toluene-d8	102	70-130	%Rec	1	12/6/2020 3:03:24 PM
EPA METHOD 8015D MOD: GASOLINE RANGE					Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/6/2020 3:03:24 PM
Surr: BFB	105	70-130	%Rec	1	12/6/2020 3:03:24 PM

Matrix: SOIL

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

н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Todd 36 G State 8

2012243-013

**Project:** 

Lab ID:

Analytical Report Lab Order 2012243

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/11/2020 Client Sample ID: WS20-05 0-2.5' Collection Date: 12/2/2020 1:00:00 PM

Received Date: 12/4/2020 8:00:00 AM

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

Matrix: SOIL

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

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Project: Todd 36 G State 8

Analytical Report Lab Order 2012243

# Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/11/2020 Client Sample ID: WS20-06 0-2.5' Collection Date: 12/2/2020 1:20:00 PM

Lab ID: 2012243-014	Matrix: SOIL	<b>x:</b> SOIL <b>Received Date:</b> 12/4/2020 8:00:00 AM					
Analyses	Result	RL Qu	al Units	DF	Date Analyzed		
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst: BRM		
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/8/2020 9:14:15 AM		
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/8/2020 9:14:15 AM		
Surr: DNOP	85.4	30.4-154	%Rec	1	12/8/2020 9:14:15 AM		
EPA METHOD 300.0: ANIONS					Analyst: CAS		
Chloride	ND	60	mg/Kg	20	12/9/2020 11:42:41 PM		
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst: <b>JMR</b>		
Benzene	ND	0.025	mg/Kg	1	12/6/2020 4:01:15 PM		
Toluene	ND	0.049	mg/Kg	1	12/6/2020 4:01:15 PM		
Ethylbenzene	ND	0.049	mg/Kg	1	12/6/2020 4:01:15 PM		
Xylenes, Total	ND	0.099	mg/Kg	1	12/6/2020 4:01:15 PM		
Surr: 1,2-Dichloroethane-d4	104	70-130	%Rec	1	12/6/2020 4:01:15 PM		
Surr: 4-Bromofluorobenzene	100	70-130	%Rec	1	12/6/2020 4:01:15 PM		
Surr: Dibromofluoromethane	112	70-130	%Rec	1	12/6/2020 4:01:15 PM		
Surr: Toluene-d8	97.7	70-130	%Rec	1	12/6/2020 4:01:15 PM		
EPA METHOD 8015D MOD: GASOLI	NE RANGE				Analyst: JMR		
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/6/2020 4:01:15 PM		
Surr: BFB	104	70-130	%Rec	1	12/6/2020 4:01:15 PM		

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

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Client: Project:	Devon E Todd 36	nergy G State 8									
Sample ID:	MB-56899	SampTy	/pe: <b>ml</b>	olk	Test	Code: EF	PA Method	300.0: Anion	s		
Client ID:	PBS	Batch	ID: 56	899	R	unNo: 73	3916				
Prep Date:	12/9/2020	Analysis Da	ate: 12	2/9/2020	S	eqNo: 26	606681	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID:	LCS-56899	SampTy	/pe: Ics	5	Test	Code: EF	PA Method	300.0: Anion	S		
Client ID:	LCSS	Batch	ID: 56	899	R	unNo: 73	3916				
Prep Date:	12/9/2020	Analysis Da	ate: 12	2/9/2020	S	eqNo: 26	606682	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	91.2	90	110			

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2012243

11-Dec-20

WO#:

# **QC SUMMARY REPORT** Hall E

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	WO#:	2012243
Environmental Analysis Laboratory, Inc.		11-Dec-20

	Devon Er	nergy									
Project:	Todd 36	G State 8									
Sample ID:	AB-56910	Sama	NDO: ME		Too	tCodo: E	A Mothod	2015M/D: Di	sol Pang	Organics	
		Botol	, ID: 56		103			001514/D. DR	eserivange	eorganics	
Dren Deter	- 00		11D. 300		г с		0000				
Prep Date:	12/5/2020	Analysis L	ate: 12	///2020	3	eqino: 20	003181	Units: <b>mg/</b> K	.g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Org	ganics (DRO)	ND	10								
	Organics (MRO)	ND 11	50	10.00		109	20.4	154			
		11		10.00		108	50.4	104			
Sample ID: L	_CS-56810	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: L	CSS	Batcl	n ID: 56	310	F	unNo: 7	3838				
Prep Date:	12/5/2020	Analysis D	Date: 12	/7/2020	S	eqNo: 2	603183	Units: <b>mg/K</b>	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Org	ganics (DRO)	52	10	50.00	0	103	70	130			
Surr: DNOP		5.3		5.000		106	30.4	154			
Sample ID: 2	2012243-005AMSE	) SampT	ype: <b>MS</b>	D	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: E	3S20-05 0.5'	Batcl	n ID: 56	310	F	unNo: 7:	3838		-	-	
Prep Date:	12/5/2020	Analysis D	ate: 12	/7/2020	S	eqNo: 20	603188	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Diesel Range Org	ganics (DRO)	Result 48	PQL 9.9	SPK value 49.46	SPK Ref Val 0	%REC 97.6	LowLimit 15	HighLimit 184	%RPD 3.41	RPDLimit 23.9	Qual
Analyte Diesel Range Org Surr: DNOP	ganics (DRO)	Result 48 5.0	PQL 9.9	SPK value 49.46 4.946	SPK Ref Val 0	%REC 97.6 101	LowLimit 15 30.4	HighLimit 184 154	%RPD 3.41 0	RPDLimit 23.9 0	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2	ganics (DRO) 2012243-005AMS	Result 48 5.0 SampT	PQL 9.9	SPK value 49.46 4.946	SPK Ref Val 0 Tes	%REC 97.6 101 tCode: <b>EF</b>	LowLimit 15 30.4 PA Method	HighLimit 184 154 8015M/D: Die	%RPD 3.41 0	RPDLimit 23.9 0	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E	ganics (DRO) 2012243-005AMS 3S20-05 0.5'	Result 48 5.0 SampT Batcl	PQL 9.9 Type: <b>MS</b>	SPK value 49.46 4.946	SPK Ref Val 0 Tes	%REC 97.6 101 tCode: EF	LowLimit 15 30.4 PA Method 3838	HighLimit 184 154 8015M/D: Die	%RPD 3.41 0 esel Range	RPDLimit 23.9 0 e Organics	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E Prep Date:	ganics (DRO) 2012243-005AMS 3S20-05 0.5' 12/5/2020	Result 48 5.0 SampT Batcl Analysis E	PQL 9.9 Type: MS n ID: 568 Date: 12	SPK value 49.46 4.946 3310 27/2020	SPK Ref Val 0 Tes F S	%REC 97.6 101 tCode: EF	LowLimit 15 30.4 PA Method 3838 603189	HighLimit 184 154 8015M/D: Die Units: mg/K	%RPD 3.41 0 esel Range	RPDLimit 23.9 0	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E Prep Date: Analyte	ganics (DRO) 2012243-005AMS 3S20-05 0.5' 12/5/2020	Result 48 5.0 SampT Batcl Analysis D Result	PQL 9.9 Type: MS n ID: 564 Date: 12 PQL	SPK value 49.46 4.946 310 27/2020 SPK value	SPK Ref Val 0 Tes F SPK Ref Val	%REC 97.6 101 tCode: EF tunNo: 7: GeqNo: 20 %REC	LowLimit 15 30.4 PA Method 3838 503189 LowLimit	HighLimit 184 154 8015M/D: Dia Units: mg/K HighLimit	%RPD 3.41 0 esel Range	RPDLimit 23.9 0 e Organics	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E Prep Date: Analyte Diesel Range Org	ganics (DRO) 2012243-005AMS 3S20-05 0.5' 12/5/2020 ganics (DRO)	Result 48 5.0 SampT Batch Analysis D Result 47	PQL 9.9 Type: MS n ID: 568 Date: 12 PQL 9.0	SPK value 49.46 4.946 310 577/2020 SPK value 44.84	SPK Ref Val 0 Tes F S SPK Ref Val 0	%REC 97.6 101 tCode: EF tunNo: 7: SeqNo: 20 %REC 104	LowLimit 15 30.4 PA Method 3838 503189 LowLimit 15	HighLimit 184 154 8015M/D: Die Units: mg/K HighLimit 184	%RPD 3.41 0 esel Range	RPDLimit 23.9 0 e Organics RPDLimit	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E Prep Date: Analyte Diesel Range Org Surr: DNOP	ganics (DRO) 2012243-005AMS 3S20-05 0.5' 12/5/2020 ganics (DRO)	Result 48 5.0 SampT Batcl Analysis D Result 47 4.9	PQL 9.9 Type: MS n ID: 560 Date: 12 PQL 9.0	SPK value 49.46 4.946 310 5/7/2020 SPK value 44.84 4.484	SPK Ref Val 0 Tes F SPK Ref Val 0	%REC 97.6 101 tCode: EF cunNo: 7: SeqNo: 20 %REC 104 108	LowLimit 15 30.4 PA Method 3838 503189 LowLimit 15 30.4	HighLimit 184 154 8015M/D: Dia Units: mg/K HighLimit 184 154	%RPD 3.41 0 esel Range	RPDLimit 23.9 0 e Organics RPDLimit	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E Prep Date: Analyte Diesel Range Org Surr: DNOP	ganics (DRO) 2012243-005AMS 3S20-05 0.5' 12/5/2020 ganics (DRO)	Result 48 5.0 SampT Batch Analysis D Result 47 4.9 SampT	PQL 9.9 Type: MS D ID: 564 Date: 12 PQL 9.0	SPK value 49.46 4.946 310 77/2020 SPK value 44.84 4.484 5	SPK Ref Val 0 Tes 5 SPK Ref Val 0 Tes	%REC 97.6 101 tCode: EF cunNo: 7: SeqNo: 20 %REC 104 108 tCode: EF	LowLimit 15 30.4 PA Method 3838 503189 LowLimit 15 30.4 PA Method	HighLimit 184 154 8015M/D: Die Units: mg/K HighLimit 184 154 8015M/D: Die	%RPD 3.41 0 esel Range %RPD esel Range	RPDLimit 23.9 0 e Organics RPDLimit	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E Prep Date: Analyte Diesel Range Org Surr: DNOP Sample ID: L Client ID: L	ganics (DRO) 2012243-005AMS 3S20-05 0.5' 12/5/2020 ganics (DRO) _CS-56809 _CSS	Result 48 5.0 SampT Batcl Analysis D Result 47 4.9 SampT Batcl	PQL 9.9 5 ype: MS 0 DD: 560 0 2ate: 12 9.0 5 ype: LC 0 DD: 560	SPK value 49.46 4.946 310 277/2020 SPK value 44.84 4.484 5 309	SPK Ref Val 0 Tes 5 SPK Ref Val 0 Tes F	%REC           97.6           101           tCode:           tanNo:           7:           SeqNo:           %REC           104           108           tCode:           EF           tunNo:           7:	LowLimit 15 30.4 PA Method 3838 503189 LowLimit 15 30.4 PA Method 3877	HighLimit 184 154 8015M/D: Die Units: mg/K HighLimit 184 154 8015M/D: Die	%RPD 3.41 0 esel Range %RPD	RPDLimit 23.9 0 e Organics RPDLimit	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E Prep Date: Analyte Diesel Range Org Surr: DNOP Sample ID: L Client ID: L Prep Date:	ganics (DRO) 2012243-005AMS 3S20-05 0.5' 12/5/2020 ganics (DRO) _CS-56809 _CSS 12/5/2020	Result 48 5.0 SampT Batcl Analysis D Result 47 4.9 SampT Batcl Analysis D	PQL 9.9 Type: MS 1D: 560 Date: 12 PQL 9.0 Type: LC 1D: 560 Date: 12	SPK value 49.46 4.946 310 77/2020 SPK value 44.84 4.484 S 309 78/2020	SPK Ref Val 0 Tes SPK Ref Val 0 Tes F	%REC           97.6           101           tCode:           terministry           terministry           terministry           %REC           104           108           tcode:           terministry           terministry <th>LowLimit 15 30.4 PA Method 3838 603189 LowLimit 15 30.4 PA Method 3877 605170</th> <th>HighLimit 184 154 8015M/D: Die Units: mg/K HighLimit 184 154 8015M/D: Die Units: mg/K</th> <th>%RPD 3.41 0 esel Range %RPD esel Range</th> <th>RPDLimit 23.9 0 e Organics RPDLimit</th> <th>Qual</th>	LowLimit 15 30.4 PA Method 3838 603189 LowLimit 15 30.4 PA Method 3877 605170	HighLimit 184 154 8015M/D: Die Units: mg/K HighLimit 184 154 8015M/D: Die Units: mg/K	%RPD 3.41 0 esel Range %RPD esel Range	RPDLimit 23.9 0 e Organics RPDLimit	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E Prep Date: Analyte Diesel Range Org Surr: DNOP Sample ID: L Client ID: L Prep Date: Analyte	ganics (DRO) 2012243-005AMS 3S20-05 0.5' 12/5/2020 ganics (DRO) CS-56809 CSS 12/5/2020	Result 48 5.0 SampT Batcl Analysis D 47 4.9 SampT Batcl Analysis D Result	PQL 9.9 Type: MS 1D: 564 PQL 9.0 Type: LC 0 D: 564 Date: 12 PQL	SPK value 49.46 4.946 310 77/2020 SPK value 44.84 4.484 5 309 7/8/2020 SPK value	SPK Ref Val 0 Tes 5 SPK Ref Val 0 Tes 5 SPK Ref Val	%REC           97.6           101           tCode:           terminication	LowLimit 15 30.4 PA Method 3838 503189 LowLimit 15 30.4 PA Method 3877 505170 LowLimit	HighLimit 184 154 8015M/D: Die Units: mg/K HighLimit 8015M/D: Die Units: mg/K HighLimit	%RPD 3.41 0 esel Range %RPD esel Range	RPDLimit 23.9 0 e Organics RPDLimit	Qual
Analyte Diesel Range Org Surr: DNOP Sample ID: 2 Client ID: E Prep Date: Analyte Diesel Range Org Surr: DNOP Sample ID: L Client ID: L Prep Date: Analyte Diesel Range Org	ganics (DRO) 2012243-005AMS 3S20-05 0.5' 12/5/2020 ganics (DRO) -CSS 12/5/2020 ganics (DRO)	Result 48 5.0 SampT Batcl Analysis D Result Analysis D Batcl Analysis D Result 52	PQL 9.9 Type: MS Date: 12 PQL 9.0 Type: LC Date: 12 Date: 12 PQL 10	SPK value 49.46 4.946 310 77/2020 SPK value 44.84 4.484 5 309 78/2020 SPK value 50.00	SPK Ref Val 0 Tes SPK Ref Val 0 Tes SPK Ref Val 5 SPK Ref Val 0	%REC           97.6           101           tCode:           terministry           terministry           %REC           104           108           tcode:           terministry           total           terministry           terminining	LowLimit 15 30.4 PA Method 3838 603189 LowLimit 15 30.4 PA Method 3877 605170 LowLimit 70	HighLimit 184 154 8015M/D: Die Units: mg/K HighLimit 184 154 8015M/D: Die Units: mg/K HighLimit 130	%RPD 3.41 0 esel Range %RPD esel Range	RPDLimit 23.9 0 e Organics RPDLimit e Organics RPDLimit	Qual

Qualifiers:

- Value exceeds Maximum Contaminant Level. \*
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit PQL
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit

Client: Devor Project: Todd	Energy 36 G State 8									
Sample ID: MB-56809	Samp	Гуре: МЕ	BLK	Tes	Code: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batc	h ID: 56	809	R	unNo: 7	3877				
Prep Date: 12/5/2020	Analysis [	Date: 12	2/8/2020	S	eqNo: 2	605176	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		116	30.4	154			

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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WO#:

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Client:	Devon Energy									
Project:	Fodd 36 G State 8									
Sample ID: mb1	Samo	Type: MB		Tos	Code: E	PA Method	8260B: Volat	iles Short	list	
	Sampi			163					LISU	
	Batc	n ID: 573	3810	R	unino: 7	3810				
Prep Date:	Analysis E	Date: 12	/5/2020	S	eqNo: 20	601700	Units: %Rec	;		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane	e-d4 0.50		0.5000		100	70	130			
Surr: 4-Bromofluoroben:	zene 0.51		0.5000		103	70	130			
Surr: Dibromofluorometl	nane 0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.48		0.5000		96.6	70	130			
Sample ID: 100ng Io	s Samp1	Type: LC	s	Test	tCode: EF	PA Method	8260B: Volat	iles Short	List	
Client ID: LCSS	Batc	h ID: <b>S7</b> :	3810	R	unNo: 7	3810				
Prep Date:	Analysis E	Date: 12	/5/2020	S	eqNo: 20	601701	Units: %Rec	:		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane	e-d4 0.52		0.5000		104	70	130			
Surr: 4-Bromofluoroben:	zene 0.50		0.5000		100	70	130			
Surr: Dibromofluoromet	nane 0.50		0.5000		99.9	70	130			
Surr: Toluene-d8	0.48		0.5000		95.4	70	130			
Sample ID: mb-5680	7 Samp1	Гуре: МВ	LK	Test	tCode: EF	PA Method	8260B: Volat	iles Short	List	
Client ID: PBS	Batc	h ID: 568	307	R	unNo: 7	3810				
Prep Date: 12/4/20	20 Analysis D	Date: 12	/5/2020	S	eqNo: 20	601713	Units: mg/K	g		
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	e-d4 0.53		0.5000		106	70	130			
Surr: 4-Bromofluoroben:	zene 0.53		0.5000		105	70	130			
Surr: Dibromofluorometl	nane 0.56		0.5000		113	70	130			
Surr: Toluene-d8	0.49		0.5000		98.9	70	130			
Sample ID: Ics-5680	7 Samp1	Гуре: <b>LC</b>	S4	Test	tCode: EF	PA Method	8260B: Volat	iles Short	List	
Client ID: BatchQC	Batc	h ID: 568	307	R	unNo: 7	3810				
Prep Date: 12/4/20	20 Analysis [	Date: 12	/5/2020	S	eqNo: 20	601715	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	110	80	120			
Toluene	1.1	0.050	1.000	0	107	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.3	0.10	3.000	0	110	80	120			
Surr: 1,2-Dichloroethane	e-d4 0.53		0.5000		107	70	130			
Surr: 4-Bromofluoroben:	zene 0.52		0.5000		104	70	130			
Oualifiers:										

\* 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

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Project: Todd 36	G State 8									
Sample ID: Ics-56807	SampT	ype: LC	S4	Tes	Code: EF	PA Method	8260B: Volat	tiles Short	List	
Client ID: BatchQC	Batch	h ID: 56	807	R	unNo: 73	3810				
Prep Date: 12/4/2020	Analysis D	Date: 12	2/5/2020	S	eqNo: 26	601715	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.58		0.5000		116	70	130			
Surr: Toluene-d8	0.49		0.5000		97.3	70	130			
Sample ID: mb-56806	SampT	уре: МЕ	BLK	Tes	Code: EF	PA Method	8260B: Volat	tiles Short	List	
Client ID: PBS	Batch	h ID: 568	806	R	unNo: 73	3811				
Prep Date: 12/4/2020	Analysis D	Date: 12	2/5/2020	S	eqNo: 26	601889	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.9	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		103	70	130			
Surr: Dibromotiuorometnane	0.54		0.5000		107	70	130			
Surr: Toluene-as	0.47		0.5000		94.1	70	130			
				_	<u> </u>					
Sample ID: Ics-56806	SampT	ype: LC	S4	Tes	Code: EF	PA Method	8260B: Volat	tiles Short	List	
Sample ID: Ics-56806 Client ID: BatchQC	SampT Batcl	<sup>-</sup> ype: <b>LC</b> h ID: <b>56</b>	S4 806	Tes R	Code: EF	PA Method 3811	8260B: Volat	tiles Short	List	
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020	SampT Batcl Analysis D	Type: LC h ID: 568 Date: 12	S4 306 2/5/2020	Tes R S	iCode: EF iunNo: 73 ieqNo: 26	PA Method 3811 601890	8260B: Volat	tiles Short (g	List	
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte	SampT Batcl Analysis D Result	⊽pe: LC h ID: 568 Date: 12 PQL	S4 806 2/5/2020 SPK value	Tes R SPK Ref Val	iCode: EF iunNo: 7: ieqNo: 26 %REC	PA Method 3811 601890 LowLimit	8260B: Volat Units: mg/k HighLimit	tiles Short (g %RPD	List	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene	SampT Batch Analysis D Result 1.1	Type: LC n ID: 568 Date: 12 PQL 0.025	S4 806 2/5/2020 SPK value 1.000	Tes R SPK Ref Val 0	:Code: EF :unNo: 7; ;eqNo: 26 <u>%REC</u> 106	PA Method 3811 601890 LowLimit 80	8260B: Volat Units: mg/k HighLimit 120	kijes Short Kg %RPD	List RPDLimit	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene	SampT Batch Analysis D Result 1.1 1.0	Type: LC n ID: 564 Date: 12 PQL 0.025 0.050	<b>S4</b> <b>306</b> <b>2/5/2020</b> SPK value 1.000 1.000	Tes R SPK Ref Val 0 0	Code: EF cunNo: 7; seqNo: 26 <u>%REC</u> 106 102	PA Method 3811 601890 LowLimit 80 80	8260B: Volat Units: mg/k HighLimit 120 120	tiles Short (g %RPD	RPDLimit	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene	SampT Batch Analysis D Result 1.1 1.0 0.98	ype:         LC           n ID:         568           Date:         12           PQL         0.025           0.050         0.050	S4 306 2/5/2020 SPK value 1.000 1.000 1.000	Tes R SPK Ref Val 0 0 0	Code: EF cunNo: 7: 5eqNo: 26 <u>%REC</u> 106 102 97.8	PA Method 3811 601890 LowLimit 80 80 80	8260B: Volat Units: mg/K HighLimit 120 120 120	short (g %RPD	List RPDLimit	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total	SampT Batch Analysis E Result 1.1 1.0 0.98 2.9 0.17	ype:         LC           n ID:         568           Date:         12           PQL         0.025           0.050         0.050           0.10         0.10	S4 B06 2/5/2020 SPK value 1.000 1.000 3.000 0.000	Tes R SPK Ref Val 0 0 0 0 0	Code: EF JunNo: 73 JeqNo: 26 <u>%REC</u> 106 102 97.8 96.2	PA Method 3811 601890 LowLimit 80 80 80 80 80	8260B: Volat Units: mg/K HighLimit 120 120 120 120	short (g %RPD	<b>RPDLimit</b>	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4	SampT Batch Analysis E Result 1.1 1.0 0.98 2.9 0.47	ype: LC n ID: 564 Date: 12 PQL 0.025 0.050 0.050 0.10	S4 B06 2/5/2020 SPK value 1.000 1.000 3.000 0.5000 0.5000	Tes R SPK Ref Val 0 0 0 0 0	200de: EF 2unNo: 73 3eqNo: 26 %REC 106 102 97.8 96.2 93.7	PA Method 3811 501890 LowLimit 80 80 80 80 80 70 70	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130	(g %RPD	RPDLimit	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Discomofluoromethane	SampT Batch Analysis D Result 1.1 1.0 0.98 2.9 0.47 0.52 0.54	<sup>-</sup> ype: <b>LC</b> n ID: <b>56</b> Date: <b>12</b> <u>PQL</u> 0.025 0.050 0.050 0.10	S4 306 2/5/2020 SPK value 1.000 1.000 1.000 3.000 0.5000 0.5000 0.5000	Tes R SPK Ref Val 0 0 0 0 0	200de: EF 2unNo: 73 3eqNo: 26 %REC 106 102 97.8 96.2 93.7 103 108	PA Method 3811 501890 LowLimit 80 80 80 80 80 70 70 70 70	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130 130 130	(g %RPD	RPDLimit	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	SampT Batch Analysis E Result 1.1 1.0 0.98 2.9 0.47 0.52 0.54 0.47	ype: LC n ID: 564 Date: 12 PQL 0.025 0.050 0.050 0.050 0.10	S4 B06 2/5/2020 SPK value 1.000 1.000 1.000 3.000 0.5000 0.5000 0.5000 0.5000 0.5000	Tes R SPK Ref Val 0 0 0 0 0	200de: EF 2unNo: 73 3eqNo: 26 %REC 106 102 97.8 96.2 93.7 103 108 93.9	PA Method 3811 501890 LowLimit 80 80 80 80 80 70 70 70 70 70 70	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130 130 130 130	(g %RPD	RPDLimit	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	SampT Batch Analysis E Result 1.1 1.0 0.98 2.9 0.47 0.52 0.54 0.47 SampT	ype: LC n ID: 564 Date: 12 PQL 0.025 0.050 0.050 0.050 0.10	S4 B06 2/5/2020 SPK value 1.000 1.000 1.000 3.000 0.5000 0.5000 0.5000 0.5000 0.5000	Tes R SPK Ref Val 0 0 0 0 0 Tes	Code: EF SunNo: 7: SeqNo: 26 %REC 106 102 97.8 96.2 93.7 103 108 93.9 Code: EF	PA Method 3811 501890 LowLimit 80 80 80 80 80 80 70 70 70 70 70 70 70	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130 130 130 130 8260B: Volat	tiles Short (g %RPD tiles Short	List RPDLimit List	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: 2012243-006ams Client ID: BS20-06 0.5'	SampT Batch Analysis E Result 1.1 1.0 0.98 2.9 0.47 0.52 0.54 0.47 SampT Batch	Type: LC n ID: 564 Date: 12 0.025 0.050 0.050 0.050 0.10	S4 306 2/5/2020 SPK value 1.000 1.000 1.000 0.50000 0.50000 0.5000 0.5000 0.5000 0	Tes R SPK Ref Val 0 0 0 0 0 Tes R	Code: EF aunNo: 7: beqNo: 26 %REC 106 102 97.8 96.2 93.7 103 108 93.9 :Code: EF aunNo: 7:	PA Method 3811 501890 LowLimit 80 80 80 80 80 70 70 70 70 70 70 70 70 70 7	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130 130 130 130 130 130	tiles Short	List RPDLimit List	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: 2012243-006ams Client ID: BS20-06 0.5' Prep Date: 12/4/2020	SampT Batch Analysis D Result 1.1 1.0 0.98 2.9 0.47 0.52 0.54 0.47 SampT Batch Analysis D	Type:         LC           n ID:         564           Date:         12           PQL         0.025           0.025         0.050           0.050         0.10	S4 B06 2/5/2020 SPK value 1.000 1.000 1.000 3.000 0.50000 0.50000 0.50000 0.5000 0.5000 0.5000 0.5000 0	Tes R SPK Ref Val 0 0 0 0 0 Tes R S	200de: EF 200No: 73 3eqNo: 26 %REC 106 102 97.8 96.2 93.7 103 108 93.9 30 200de: EF 200de: EF 200de: EF 200de: 73 200de: 26	PA Method 3811 501890 LowLimit 80 80 80 80 80 80 70 70 70 70 70 70 70 70 70 7	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130 130 130 130 130 130 Units: mg/k	tiles Short %RPD tiles Short	List	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Toluene-d8 Sample ID: 2012243-006ams Client ID: BS20-06 0.5' Prep Date: 12/4/2020 Analyte	SampT Batch Analysis D Result 1.1 1.0 0.98 2.9 0.47 0.52 0.54 0.47 SampT Batch Analysis D Result	Type:         LC           n ID:         564           Date:         12           PQL         0.025           0.025         0.050           0.050         0.10	S4 306 2/5/2020 SPK value 1.000 1.000 1.000 3.000 0.50000 0.50000 0.50000 0.5000 0.5000 0.5000 0.5000 0	Tes R SPK Ref Val 0 0 0 0 0 Tes R SPK Ref Val	200de: EF 200No: 73 3eqNo: 26 %REC 106 102 97.8 96.2 93.7 103 108 93.9 2004: EF 2004: EF 2004: EF 2004: 26 2005: 26 2005: 26	PA Method 3811 501890 LowLimit 80 80 80 80 80 70 70 70 70 70 70 70 70 70 7	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130 130 130 130 130 130 Units: mg/k HighLimit	tiles Short (g %RPD tiles Short (g %RPD	List RPDLimit List RPDLimit	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID: 2012243-006ams Client ID: BS20-06 0.5' Prep Date: 12/4/2020 Analyte Benzene	SampT Batch Analysis D Result 1.1 1.0 0.98 2.9 0.47 0.52 0.54 0.47 SampT Batch Analysis D Result 0.99	-ype: LC n ID: 564 Date: 12 PQL 0.025 0.050 0.050 0.050 0.10	S4 306 2/5/2020 SPK value 1.000 1.000 1.000 3.000 0.50000 0.50000 0.50000 0.50000 0.50000 0.50000 0.50000 0.50000 0.50000 0.5000000 0.50000 0.50000000 0.50000 00	Tes R SPK Ref Val 0 0 0 0 0 Tes R SPK Ref Val 0	200de: EF 2unNo: 73 3eqNo: 26 %REC 106 102 97.8 96.2 93.7 103 108 93.9 200de: EF 200de: EF 200de: EF 200de: 20 200de: 20 200de: 20 200de: 20 200de: 20 20 20 20 20 20 20 20 20 20 20 20 20 2	PA Method 3811 501890 LowLimit 80 80 80 80 80 80 80 70 70 70 70 70 70 70 70 70 7	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130 130 130 130 8260B: Volat Units: mg/k HighLimit 115	tiles Short (g %RPD tiles Short (g %RPD	List RPDLimit List RPDLimit	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 2-Dichloroethane-d4 Surr: 2-Dichloroethane Surr: Dibromofluorobenzene Surr: Dibromofluorobenzene Surr: Toluene-d8 Sample ID: 2012243-006ams Client ID: BS20-06 0.5' Prep Date: 12/4/2020 Analyte Benzene Toluene	SampT Batch Analysis E Result 1.1 1.0 0.98 2.9 0.47 0.52 0.54 0.47 SampT Batch Analysis E Result 0.99 1.1	Type:         LC           n ID:         564           Date:         12           PQL         0.025           0.050         0.050           0.050         0.10	S4 306 2/5/2020 SPK value 1.000 1.000 1.000 3.000 0.50000 0.50000 0.50000 0.50000 0.50000 0.500000 0.500	Tes R SPK Ref Val 0 0 0 0 0 0 Tes R SPK Ref Val 0 0	Code: EF aunNo: 7: SeqNo: 26 %REC 106 102 97.8 96.2 93.7 103 108 93.9 Code: EF SunNo: 7: SeqNo: 26 %REC 100 108	PA Method 3811 501890 LowLimit 80 80 80 80 80 80 70 70 70 70 70 70 70 70 70 7	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130 130 130 130 130 130 Units: mg/k HighLimit 115 132	tiles Short (g %RPD tiles Short (g %RPD	List RPDLimit List RPDLimit	Qual
Sample ID: Ics-56806 Client ID: BatchQC Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluorobenzene Surr: Toluene-d8 Sample ID: 2012243-006ams Client ID: BS20-06 0.5' Prep Date: 12/4/2020 Analyte Benzene Toluene Ethylbenzene	SampT Batch Analysis E Result 1.1 1.0 0.98 2.9 0.47 0.52 0.54 0.47 SampT Batch Analysis E Result 0.99 1.1 1.1	Type:         LC           n ID:         564           Date:         12           PQL         0.025           0.050         0.050           0.050         0.10	S4 306 2/5/2020 SPK value 1.000 1.000 1.000 3.000 0.5000 0.9872 0.9872 0.9872	Tes R SPK Ref Val 0 0 0 0 0 0 0 SPK Ref Val 0 0 0 0	Code: EF aunNo: 7: beqNo: 26 %REC 106 102 97.8 96.2 93.7 103 108 93.9 Code: EF aunNo: 7: beqNo: 26 %REC 100 108 109	PA Method 3811 501890 LowLimit 80 80 80 80 80 80 70 70 70 70 70 70 70 70 70 7	8260B: Volat Units: mg/k HighLimit 120 120 120 120 130 130 130 130 130 130 130 130 130 13	tiles Short (g %RPD tiles Short (g %RPD	List RPDLimit List RPDLimit	Qual

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

B Analyte detected in the associated Method Blank

WO#:	2012243
	11 0 00

11-Dec-20

Client: Devon H	Energy									
Project: Todd 36	G State 8									
Sample ID: 2012243-006ams	s Samp	Гуре: <b>МS</b>	64	Tes	tCode: El	PA Method	8260B: Volat	tiles Short	List	
Client ID: BS20-06 0.5'	Batc	h ID: 56	807	F	RunNo: 7	3824				
Prep Date: 12/4/2020	Analysis [	Date: 12	2/6/2020	S	SeqNo: 2	602750	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.50		0.4936		102	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.4936		98.7	70	130			
Surr: Dibromofluoromethane	0.53		0.4936		107	70	130			
Surr: Toluene-d8	0.50		0.4936		102	70	130			
Sample ID: 2012243-006ams	d Samp	Туре: <b>МS</b>	SD4	Tes	tCode: El	PA Method	8260B: Volat	tiles Short	List	
Client ID: BS20-06 0.5'	Batc	h ID: 56	807	F	RunNo: 7	3824				
Prep Date: 12/4/2020	Analysis [	Date: 12	2/6/2020	S	SeqNo: 2	602751	Units: mg/K	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9804	0	107	71.1	115	5.71	20	
Toluene	1.1	0.049	0.9804	0	110	79.6	132	0.754	20	
Ethylbenzene	1.1	0.049	0.9804	0	110	83.8	134	0.575	20	
Xylenes, Total	3.4	0.098	2.941	0	116	82.4	132	0.132	20	
Surr: 1,2-Dichloroethane-d4	0.51		0.4902		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4902		100	70	130	0	0	
	01.10									
Surr: Dibromofluoromethane	0.53		0.4902		107	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

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WO#:	2012243
	11-Dec-20

Sample ID:mb1SampType:MBLKTestCode:EPA Method 8015D Mod:Gasoline RangeClient ID:PBSBatch ID:G73810RunNo:73810Prep Date:Analysis Date:12/5/2020SeqNo:2601720Units:%RecAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitSurr: BFB530500.01057013013010570130Sample ID:2.5ug gro IcsSampType:LCSTestCode:EPA Method 8015D Mod:Gasoline RangeClient ID:LCSSBatch ID:G73810RunNo:73810Prep Date:Analysis Date:12/5/2020SeqNo:2601721Units:%Rec	Qual
Client ID:       PBS       Batch ID:       G73810       RunNo:       73810         Prep Date:       Analysis Date:       12/5/2020       SeqNo:       2601720       Units:       %Rec         Analyte       Result       PQL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       %RPD       RPDLimit         Surr: BFB       530       500.0       105       70       130       130         Sample ID:       2.5ug gro Ics       SampType:       LCS       TestCode:       EPA Method 8015D Mod:       Gasoline Range         Client ID:       LCSS       Batch ID:       G73810       RunNo:       73810         Prep Date:       Analysis Date:       12/5/2020       SeqNo:       2601721       Units:       %Rec	Qual
Prep Date:       Analysis Date:       12/5/2020       SeqNo:       2601720       Units:       %Rec         Analyte       Result       PQL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       %RPD       RPDLimit         Surr: BFB       530       500.0       105       70       130       100         Sample ID: 2.5ug gro Ics       SampType:       LCS       TestCode:       EPA Method 8015D Mod:       Gasoline Range         Client ID:       LCSS       Batch ID:       G73810       RunNo:       73810       Vinits:       %Rec         Prep Date:       Analysis Date:       12/5/2020       SeqNo:       2601721       Units:       %Rec	Qual
Analyte       Result       PQL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       %RPD       RPDLimit         Surr: BFB       530       500.0       105       70       130       130         Sample ID: 2.5ug gro Ics       SampType: LCS       TestCode: EPA Method 8015D Mod: Gasoline Range         Client ID:       LCSS       Batch ID:       G73810       RunNo:       73810         Prep Date:       Analysis Date:       12/5/2020       SeqNo:       2601721       Units: %Rec	Qual
Surr: BFB         530         500.0         105         70         130           Sample ID: 2.5ug gro Ics         SampType: LCS         TestCode: EPA Method 8015D Mod: Gasoline Range           Client ID:         LCSS         Batch ID:         G73810         RunNo:         73810           Prep Date:         Analysis Date:         12/5/2020         SeqNo:         2601721         Units: %Rec	
Sample ID: 2.5ug gro Ics       SampType: LCS       TestCode: EPA Method 8015D Mod: Gasoline Range         Client ID:       LCSS       Batch ID:       G73810         Prep Date:       Analysis Date:       12/5/2020       SeqNo:       2601721       Units: %Rec	
Client ID:         LCSS         Batch ID:         G73810         RunNo:         73810           Prep Date:         Analysis Date:         12/5/2020         SeqNo:         2601721         Units:         %Rec	
Prep Date:         Analysis Date:         12/5/2020         SeqNo:         2601721         Units:         %Rec	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Surr: BFB         530         500.0         106         70         130	
Sample ID: mb-56807         SampType: MBLK         TestCode: EPA Method 8015D Mod: Gasoline Range	
Client ID:         PBS         Batch ID:         56807         RunNo:         73810	
Prep Date:         12/4/2020         Analysis Date:         12/5/2020         SeqNo:         2601733         Units:         mg/Kg	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Gasoline Range Organics (GRO)         ND         5.0           Surr: BFB         530         500.0         105         70         130	
Sample ID: Ics-56807     SampType: LCS     TestCode: EPA Method 8015D Mod: Gasoline Range	
Client ID: LCSS Batch ID: 56807 RunNo: 73810	
Prep Date:         12/4/2020         Analysis Date:         12/5/2020         SeqNo:         2601734         Units:         mg/Kg	
	Qual
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Suai
Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           Gasoline Range Organics (GRO)         22         5.0         25.00         0         89.6         70         130	<u> vuu</u>
Analyte     Result     PQL     SPK value     SPK Ref Val     %REC     LowLimit     HighLimit     %RPD     RPDLimit       Gasoline Range Organics (GRO)     22     5.0     25.00     0     89.6     70     130       Surr: BFB     530     500.0     105     70     130	
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)225.025.00089.670130Surr: BFB530500.010570130Sample ID: 2012243-005amsSampType: MSTestCode: EPA Method 8015D Mod: Gasoline Range	<u>~~</u> 001
Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDL imit           Gasoline Range Organics (GRO)         22         5.0         25.00         0         89.6         70         130           Surr: BFB         530         500.0         105         70         130           Sample ID:         2012243-005ams         SampType:         MS         TestCode:         EPA Method 8015D Mod:         Gasoline Range           Client ID:         BS20-05         0.5'         Batch ID:         56807         RunNo:         73810	
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)225.025.00089.670130Surr: BFB530500.010570130Sample ID: 2012243-005amsSampType: MSTestCode: EPA Method 8015D Mod: Gasoline RangeClient ID:BS20-050.5'Batch ID: 56807RunNo: 73810Prep Date:12/4/2020Analysis Date:12/5/2020SeqNo: 2601736Units: mg/Kg	<u></u>
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)225.025.00089.670130Surr: BFB530500.010570130Sample ID: 2012243-005amsSampType: MSTestCode: EPA Method 8015D Mod: Gasoline RangeClient ID:BS20-050.5'Batch ID: 56807RunNo: 73810Prep Date:12/4/2020Analysis Date:12/5/2020SeqNo: 2601736Units: mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimit	Qual
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)225.025.00089.670130Surr: BFB530500.010570130Sample ID: 2012243-005amsSampType: MSTestCode: EPA Method 8015D Mod: Gasoline RangeClient ID:BS20-050.5'Batch ID: 56807RunNo: 73810Prep Date:12/4/2020Analysis Date:12/5/2020SeqNo: 2601736Units: mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)234.924.39093.449.2122122Curre DEP500234.924.39093.449.2122	Qual
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)225.025.00089.670130Surr: BFB530500.010570130Sample ID: 2012243-005amsSampType: MSTestCode: EPA Method 8015D Mod: Gasoline RangeClient ID:BS20-05 0.5'Batch ID: 56807RunNo: 73810Prep Date:12/4/2020Analysis Date:12/5/2020SeqNo: 2601736Units: mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)234.924.39093.449.2122Surr: BFB500487.810270130130	Qual
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)225.025.00089.670130Surr: BFB530500.010570130Sample ID: 2012243-005amsSampType: MSTestCode: EPA Method 8015D Mod: Gasoline RangeClient ID:BS20-050.5'Batch ID: 56807RunNo: 73810Prep Date:12/4/2020Analysis Date:12/5/2020SeqNo: 2601736Units: mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDGasoline Range Organics (GRO)234.924.39093.449.2122Surr: BFB500487.810270130Sample ID:2012243-005amsdSampType: MSDTestCode: EPA Method 8015D Mod: Gasoline Range	Qual
Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           Gasoline Range Organics (GRO)         22         5.0         25.00         0         89.6         70         130           Surr: BFB         530         500.0         105         70         130           Sample ID:         2012243-005ams         SampType: MS         TestCode: EPA Method 8015D Mod: Gasoline Range           Client ID:         BS20-05         0.5'         Batch ID:         56807         RunNo:         73810           Prep Date:         12/4/2020         Analysis Date:         12/5/2020         SeqNo:         2601736         Units:         mg/Kg           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           Gasoline Range Organics (GRO)         23         4.9         24.39         0         93.4         49.2         122           Surr: BFB         500         487.8         102         70         130           SampI Pipe: MSD         TestCode: EPA Method 8015D Mod: Gasoline Range         Client ID:         Batch ID:         56807	Qual
Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           Gasoline Range Organics (GRO)         22         5.0         25.00         0         89.6         70         130           Surr: BFB         530         500.0         105         70         130           Sample ID:         2012243-005ams         SampType:         MS         TestCode:         EPA Method 8015D Mod:         Gasoline Range           Client ID:         BS20-05         0.5'         Batch ID:         56807         RunNo:         73810           Prep Date:         12/4/2020         Analysis Date:         12/5/2020         SeqNo:         2601736         Units:         mg/Kg           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           Gasoline Range Organics (GRO)         23         4.9         24.39         0         93.4         49.2         122           Surr: BFB         500         487.8         102         70         130           Sample ID:         2012243-005amsd         SampType:         MSD         Test	Qual
AnalyteResultPQLSPK valueSPK valueSPK ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)225.025.00089.670130Surr: BFB530500.010570130Sample ID: 2012243-005amsSampType: MSTestCode: EPA Method 8015D Mod: Gasoline RangeClient ID:BS20-05 0.5'Batch ID: 56807RunNo: 73810Prep Date:12/4/2020Analysis Date:12/5/2020SeqNo: 2601736Units: mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitGasoline Range Organics (GRO)234.924.39093.449.2122Surr: BFB500487.810270130Sample ID:2012243-005amsdSampType: MSDTestCode: EPA Method 8015D Mod: Gasoline RangeClient ID:BS20-050.5'Batch ID: 56807RunNo: 73810Prep Date:12/4/2020Analysis Date:12/5/2020SeqNo: 2601737Units: mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimit	Qual

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Client:Devon IProject:Todd 30	Energy 6 G State 8										
Sample ID: mb-56806	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline	Range		-
Client ID: PBS	Batcl	h ID: 56	806	R	unNo: 73	3811					
Prep Date: 12/4/2020	Analysis D	Date: 12	2/5/2020	S	eqNo: 26	601930	Units: <b>mg/k</b>	٢g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO) Surr: BFB	ND 490	5.0	500.0		97.6	70	130				
Sample ID: Ics-56806	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline I	Range		
Client ID: LCSS	Batcl	n ID: 56	806	R	unNo: 73	3811					
Prep Date: 12/4/2020	Analysis D	Date: 12	2/5/2020	S	eqNo: 26	601931	Units: mg/k	٢g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.0	70	130				
Surr: BFB	510		500.0		102	70	130				

Qualifiers:

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- 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

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2012243

11-Dec-20

WO#:

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	HALL ENVIRONMENTAL ANALYSIS LABORATORY			ll Environmenta Alı L: 505-345-397 Vebsite: clients.k	l Analy 490 5 FAX: 5 allenvi	vsis Labo 01 Hawki que, NM 505-345 ronmenta	ratory ins NE 87109 5-4107 al.com	Sample Log-In Check List		
Client Name	Devon Er	nergy	Work	Order Numbe	r: 201	2243			RcptNo:	1
Received By	Sean Liv	vingston	12/4/20	020 8:00:00 AN	1		$\langle \rangle$	5-6	not	
Completed B	y: Desiree	Dominguez	12/4/20	20 9:21:19 AM	4		T	2		
Reviewed By	SEL	12/4/20 SGL 12/4/	12/4/2	0				-A		
Chain of C	ustody									
1. Is Chain o	f Custody com	plete?			Yes		N	lo 🗌	Not Present	
2. How was t	he sample del	ivered?			Cou	rier				
Login										
3. Was an at	empt made to	cool the sample	es?		Yes		N	o 🗌		
4. Were all sa	imples receive	ed at a temperat	ure of >0° C	to 6.0°C	Yes	~	N	o 🗌		
5. Sample(s)	in proper cont	ainer(s)?			Yes	~	N	•		
6. Sufficient s	ample volume	for indicated te	st(s)?		Yes	~	N	•		
7. Are sample	s (except VOA	A and ONG) pro	perly preserv	ed?	Yes		N	o 🗆		
8. Was prese	vative added	to bottles?			Yes		N		NA 🗌	
9. Received a	t least 1 vial w	vith headspace <	<1/4" for AQ \	/OA?	Yes		N	•	NA 🔽	
10. Were any s	sample contair	ners received br	oken?		Yes		N	0 🗸		TO
11. Does pape	work match b	ottle labels?			Yes	~	N	• 🗆	# of preserved bottles checked for pH:	12 04
(Note discre	epancies on cl	hain of custody)							(<2 or >	12 unless noted)
12. Are matrice	s correctly ide	ntified on Chain	of Custody?		Yes		No		Adjusted?	
13. Is it clear w	hat analyses v	were requested?	)		Yes		N			
14. Were all ho (If no, notify	Iding times ab customer for	le to be met? authorization.)			Yes		N	o 🗀	Checked by:	
Special Han	dling (if ap	plicable)								
15. Was client	notified of all	discrepancies w	ith this order	?	Yes		N	o 🗌	NA 🗹	
Pers	on Notified:	-		Date:						
By W	/hom:	1		Via:	eM	ail 🗌	Phone [	Fax	In Person	
Rega	arding:	1			_					
Clien	t Instructions:	j								
16. Additional	remarks:									
17. Cooler Int	formation									
Cooler	No Temp °C	C Condition	Seal Intact	Seal No	Seal D	ate	Signe	d By		
1	0.1	Good								
2	0.2	Good								
3	1.5	Good								

Page 1 of 1

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hone #:         20 E           mail or Fax#:         20 E           Avac Package:         20 C           I Standard         20 Level 4 (Full Validation)           Avac Compliance         20 C           I Standard         20 C           Avac I Package:         20 C           Avac I Package:         20 C           Avac I Package:         20 C           Avac I I L: vo         20 C           Avac I I I V         20 C           Avac I I I V         20 C           Avac I I I V         20 C           Avavavac I I I V         20 C

		7-0-2-1-2-0-4
HALL ENVIRONMI ANALYSIS LABOR www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 8710 Tel. 505-345-3975 Fax 505-345-4107 Tel. 505-345-3975 Fax 505-345-4107	Image: Second	marks: Direct Dill Dever 0 CC: Natali, Gordon W/0#: 20801063
Turn-Around Time: 5 Der/ standard Rush Project Name: Todd 36 5 State 8 Project #: 20E - 20141	Project Manager: Natalic Gordon Sampler: MJTP Sampler: MJTP On Ice: Eres Cooler Templineuting critice - 013 Cooler Templineuting critice - 013 La 2012243 La 2014	Received by: Via: Date Time Re DUMMMMM Received by: Viat Viat Date Time Schult Country 12/4/20 8:00
Client: DN an En Urgy Mailing Address:	email or Fax#: QA/QC Package: CA/QC Package:	Date: Time: Relinquished by: Date: Time: Relinquished by: No13120 1900 COLUMNANCE



December 29, 2020

Amanda Davis Devon Energy 6488 Seven Rivers Highway Artesia, NM 88210 TEL: (505) 350-1336 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com

OrderNo.: 2012A67

RE: Todd 36G State 8

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/22/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Project:** 

Lab ID:

Todd 36G State 8

2012A67-001

Analytical Report
Lab Order 2012A67

# Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/29/2020 Client Sample ID: WS20-05 Collection Date: 12/18/2020 1:50:00 PM

Received Date: 12/22/2020 7:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/23/2020 6:16:44 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/23/2020 6:16:44 PM
Surr: DNOP	88.4	30.4-154	%Rec	1	12/23/2020 6:16:44 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/24/2020 8:37:26 PM
Surr: BFB	87.1	75.3-105	%Rec	1	12/24/2020 8:37:26 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	12/24/2020 8:37:26 PM
Toluene	ND	0.049	mg/Kg	1	12/24/2020 8:37:26 PM
Ethylbenzene	ND	0.049	mg/Kg	1	12/24/2020 8:37:26 PM
Xylenes, Total	ND	0.098	mg/Kg	1	12/24/2020 8:37:26 PM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	12/24/2020 8:37:26 PM
EPA METHOD 300.0: ANIONS					Analyst: VP
Chloride	150	59	mg/Kg	20	12/29/2020 4:15:15 AM

Matrix: SOIL

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

Page 1 of 7

Client: Project:	Devon Todd 3	Energy 6G State 8									
Sample ID: MB-57240 SampType: MBLK			TestCode: EPA Method 300.0: Anions								
Client ID: PBS Batch ID: 57240					F	RunNo: 74	266				
Prep Date:	12/28/2020	Analysis D	ate: 12	2/28/2020	SeqNo: 2621651			Units: mg/Kg			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID:	LCS-57240	SampT	npType: LCS TestCode: EPA Method 300.0: Anions								
Client ID:	LCSS	Batch	n ID: 57	: <b>57240</b> RunNo: <b>74266</b>							
Prep Date:	12/28/2020	Analysis D	ate: 12	2/28/2020	S	SeqNo: 26	21652	Units: <b>mg/K</b>	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	93.8	90	110			

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level. \*
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- Р Sample pH Not In Range

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2012A67

29-Dec-20

WO#:

#### J Analyte detected below quantitation limits

RL Reporting Limit
1

### **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Client: Proiect:	Devon Er Todd 360	nergy 3 State 8									
Sample ID:	MB-57166	SampTy	vpe: ME	LK	Tes	tCode: E	PA Method	8015M/D: Die	esel Rango	e Organics	
Client ID:	PBS	Batch	ID: 571	166	F	RunNo: 7	4226		j	· J	
Prep Date:	12/22/2020	Analysis Da	ate: 12	/23/2020	S	SeaNo: 2	620092	Units: ma/K	a		
Analyta	12,22,2020	Deput							<del>د.</del>		Qual
Diesel Range	Organics (DRO)	ND	10	SPK value	SPK Kel Val	%REC	LOWLIMIL	⊓ign∟imit	%RPD	RPDLIMI	Quai
Motor Oil Rang	ge Organics (MRO)	ND	50								
Surr: DNOP		10		10.00		102	30.4	154			
Sample ID:	LCS-57166	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	LCSS	Batch	ID: 571	166	F	RunNo: <b>7</b>	4226				
Prep Date:	12/22/2020	Analysis Da	ate: 12	/23/2020	5	SeqNo: 2	620093	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	61	10	50.00	0	122	68.9	141			
Surr: DNOP		6.2		5.000		124	30.4	154			
Sample ID:	MB-57161	SampT	ype: ME	LK	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	PBS	Batch	ID: 571	161	F	RunNo: 7	4226				
Prep Date:	12/22/2020	Analysis Da	ate: 12	/23/2020	S	SeqNo: 2	620094	Units: %Red	•		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		9.7		10.00		96.9	30.4	154			
Sample ID:	LCS-57161	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	LCSS	Batch	ID: 571	161	F	RunNo: <b>7</b>	4226				
Prep Date:	12/22/2020	Analysis Da	ate: 12	/23/2020	S	SeqNo: 2	620095	Units: %Red	•		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		5.1		5.000		102	30.4	154			
Sample ID:	2012A67-001AMS	SampT	ype: MS	;	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	WS20-05	Batch	ID: 571	66	F	RunNo: 7	4226				
Prep Date:	12/22/2020	Analysis Da	ate: 12	/23/2020	S	SeqNo: 2	620115	Units: <b>mg/K</b>	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	53	9.7	48.50	3.244	103	15	184			
Surr: DNOP		5.2		4.850		107	30.4	154			
Sample ID:	2012A67-001AMS	D SampT	ype: <b>MS</b>	D	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	WS20-05	Batch	ID: 571	166	F	RunNo: 7	4226				
Prep Date:	12/22/2020	Analysis Da	ate: 12	/23/2020	S	SeqNo: 2	620116	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	49	8.9	44.60	3.244	104	15	184	7.18	23.9	

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 3 of 7

2012A67

29-Dec-20

WO#:

QC SUMMARY REPORT	WO#:	2012A67
Hall Environmental Analysis Laboratory, Inc.		29-Dec-20

Client: Project:	Devon En Todd 36G	ergy State 8									
Sample ID: Client ID:	2012A67-001AMSD WS20-05	SampTy Batch	/pe: <b>M</b>	SD '166	Tes F	tCode: EF	PA Method 4226	8015M/D: Di	esel Range	e Organics	
Prep Date:	12/22/2020	Analysis Da	ate: <b>1</b> :	2/23/2020	S	SeqNo: 20	620116	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qua
Surr: DNOP		5.1		4.460		114	30.4	154	0	0	

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	Devon I	Energy									
Project:	Todd 36	5G State 8									
Sample ID:	: <b>Ics-57159</b>	SampTy	ype: LC	S	Tes	tCode: EF	PA Method	8015D: Gasol	ine Rang	e	
Client ID:	LCSS	Batch	ID: 57	159	R	unNo: 74	4246				
Prep Date:	12/22/2020	Analysis Da	ate: 12	2/24/2020	S	eqNo: 20	620922	Units: mg/Kg	1		
Analvte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	23	5.0	25.00	0	92.5	72.5	106			
Surr: BFB	,	1000		1000		99.6	75.3	105			
Sample ID:	: Ics-57178	SampTy	ype: LC	s	Tes	tCode: EF	PA Method	8015D: Gasol	ine Rang	e	
Client ID:	LCSS	Batch	ID: 57	178	R	unNo: 74	4246				
Prep Date:	12/23/2020	Analysis Da	ate: 12	2/25/2020	S	eqNo: 20	620923	Units: %Rec			
Analvte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
								0			
Surr: BFB		980		1000		97.9	75.3	105			
Surr: BFB	: mb-57159	980 SampTy	ype: ME	1000 BLK	Tes	97.9 tCode: <b>Ef</b>	75.3 PA Method	105 8015D: Gasol	ine Rang	e	
Surr: BFB Sample ID: Client ID:	: mb-57159 PBS	980 SampTy Batch	ype: <b>ME</b> ID: <b>57</b>	1000 BLK 159	Tes	97.9 tCode: <b>Ef</b> tunNo: <b>7</b> 4	75.3 PA Method 4246	105 8015D: Gasol	ine Rang	e	
Surr: BFB Sample ID: Client ID: Prep Date:	: mb-57159 PBS 12/22/2020	980 SampTy Batch Analysis Da	ype: <b>ME</b> ID: <b>57</b> ate: <b>1</b> 2	1000 BLK 159 2/25/2020	Tes R S	97.9 tCode: EF tunNo: 74 SeqNo: 20	75.3 PA Method 4246 620925	105 8015D: Gasoli Units: mg/Kg	ine Rang	e	
Surr: BFB Sample ID: Client ID: Prep Date: Analyte	: mb-57159 PBS 12/22/2020	980 SampTy Batch Analysis Da Result	ype: <b>ME</b> ID: <b>57</b> ate: <b>1</b> 2 PQL	1000 BLK 159 2/25/2020 SPK value	Tesi R SPK Ref Val	97.9 tCode: EF tunNo: 74 GeqNo: 20 %REC	75.3 PA Method 4246 620925 LowLimit	105 8015D: Gasol Units: mg/Kg HighLimit	ine Rang 9 %RPD	e RPDLimit	Qual
Surr: BFB Sample ID: Client ID: Prep Date: Analyte Gasoline Rang	: mb-57159 PBS 12/22/2020 ge Organics (GRO)	980 SampTy Batch Analysis Da Result ND	ype: <b>ME</b> ID: <b>57</b> ate: <b>12</b> PQL 5.0	1000 3LK 159 2/25/2020 SPK value	Tes R S SPK Ref Val	97.9 tCode: EF RunNo: 74 GeqNo: 20 %REC	75.3 PA Method 4246 620925 LowLimit	105 8015D: Gasol Units: mg/Kg HighLimit	ine Rang g %RPD	e RPDLimit	Qual
Surr: BFB Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB	: mb-57159 PBS 12/22/2020 ge Organics (GRO)	980 SampTy Batch Analysis Da Result ND 900	ype: <b>ME</b> ID: <b>57</b> ate: <b>12</b> PQL 5.0	1000 3LK 159 2/25/2020 SPK value 1000	Tesi R S SPK Ref Val	97.9 tCode: EF tunNo: 74 GeqNo: 20 %REC 90.1	75.3 PA Method 4246 620925 LowLimit 75.3	105 8015D: Gasoli Units: mg/Kg HighLimit 105	ine Rang 9 %RPD	e RPDLimit	Qual
Surr: BFB Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID:	: mb-57159 PBS 12/22/2020 ge Organics (GRO) : mb-57178	980 SampTy Batch Analysis Da Result ND 900 SampTy	ype: <b>ME</b> ID: <b>57</b> ate: <b>12</b> <u>PQL</u> 5.0 ype: <b>ME</b>	1000 BLK 159 2/25/2020 SPK value 1000 BLK	Tesi R SPK Ref Val Tesi	97.9 tCode: EF tunNo: 74 SeqNo: 20 %REC 90.1	75.3 PA Method 4246 620925 LowLimit 75.3 PA Method	105 8015D: Gasoli Units: mg/Kg HighLimit 105 8015D: Gasoli	ine Rang 9 %RPD ine Rang	e RPDLimit	Qual
Surr: BFB Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID: Client ID:	: mb-57159 PBS 12/22/2020 ge Organics (GRO) : mb-57178 PBS	980 SampTy Batch Analysis Da Result ND 900 SampTy Batch	ype: ME ID: <b>57</b> ate: <b>12</b> <u>PQL</u> 5.0 ype: ME ID: <b>57</b>	1000 3LK 159 2/25/2020 SPK value 1000 3LK 178	Tesi R SPK Ref Val Tesi R	97.9 tCode: EF tunNo: 74 GeqNo: 20 %REC 90.1 tCode: EF	75.3 PA Method 4246 620925 LowLimit 75.3 PA Method 4246	105 8015D: Gasol Units: mg/Kg HighLimit 105 8015D: Gasol	ine Rang 9 %RPD ine Rang	e RPDLimit e	Qual
Surr: BFB Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID: Client ID: Prep Date:	: mb-57159 PBS 12/22/2020 ge Organics (GRO) : mb-57178 PBS 12/23/2020	980 SampTy Batch Analysis Da Result ND 900 SampTy Batch Analysis Da	ype: ME ID: 57 ate: 12 <u>PQL</u> 5.0 ype: ME ID: 57 ate: 12	1000 3LK 159 2/25/2020 SPK value 1000 3LK 178 2/25/2020	Tesi R SPK Ref Val Tesi R S	97.9 tCode: EF tunNo: 74 SeqNo: 20 %REC 90.1 tCode: EF tunNo: 74 SeqNo: 20	75.3 PA Method 4246 620925 LowLimit 75.3 PA Method 4246 620926	105 8015D: Gasoli Units: mg/Kg HighLimit 105 8015D: Gasoli Units: %Rec	ine Rang 9 %RPD ine Rang	e RPDLimit e	Qual
Surr: BFB Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID: Client ID: Prep Date: Analyte	: mb-57159 PBS 12/22/2020 ge Organics (GRO) : mb-57178 PBS 12/23/2020	980 SampTy Batch Analysis Da Result ND 900 SampTy Batch Analysis Da Result	ype: ME ID: 57 ate: 12 PQL 5.0 ype: ME ID: 57 ate: 12 PQL	1000 3LK 159 2/25/2020 SPK value 1000 3LK 178 2/25/2020 SPK value	Tesi R SPK Ref Val Tesi R SPK Ref Val	97.9 tCode: EF tunNo: 74 GeqNo: 20 %REC 90.1 tCode: EF tunNo: 74 GeqNo: 20 %REC	75.3 PA Method 4246 520925 LowLimit 75.3 PA Method 4246 520926 LowLimit	105 8015D: Gasoli Units: mg/Kg HighLimit 105 8015D: Gasoli Units: %Rec HighLimit	ine Rang %RPD ine Rang %RPD	e RPDLimit e RPDLimit	Qual

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

2012A67

29-Dec-20

WO#:

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

12A67

29-Dec-20

	Devon En	lergy									
Project:	1000 360	state 8									
Sample ID:	2012a67-001ams	SampT	Гуре: <b>МS</b>	6	TestCode: EPA Method 8021B: Volatiles						
Client ID:	WS20-05	Batc	h ID: 57	159	F	RunNo: <b>74246</b>					
Prep Date:	12/22/2020	Analysis E	Date: 12	2/24/2020	S	SeqNo: 2	620951	Units: <b>mg/K</b>	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.85	0.024	0.9470	0	90.0	76.3	120			
Toluene		0.89	0.047	0.9470	0.008993	92.9	78.5	120			
Ethylbenzene		0.89	0.047	0.9470	0	94.2	78.1	124			
Xylenes, Total		2.7	0.095	2.841	0.01623	95.3	79.3	125			
Surr: 4-Brom	nofluorobenzene	0.98		0.9470		104	80	120			
Sample ID:	2012a67-001amsd	SampT	Гуре: <b>МS</b>	SD	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	WS20-05	WS20-05 Batch ID: 57159			F	RunNo: 7	4246				
Prep Date:	12/22/2020	Analysis E	Date: 12	2/24/2020	5	SeqNo: 2	620952	Units: <b>mg/K</b>	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.92	0.024	0.9747	0	94.0	76.3	120	7.24	20	
Toluene		0.94	0.049	0.9747	0.008993	95.6	78.5	120	5.69	20	
Ethylbenzene		0.96	0.049	0.9747	0	98.4	78.1	124	7.29	20	
Xylenes, Total		2.9	0.097	2.924	0.01623	99.4	79.3	125	7.00	20	
Surr: 4-Brom	nofluorobenzene	1.1		0.9747		108	80	120	0	0	
Sample ID:	LCS-57159	SampType: LCS TestCode: EPA Method 8021B: Volatiles									
1											
Client ID:	LCSS	Batc	h ID: 57	159	F	RunNo: 7	4246				
Client ID: Prep Date:	LCSS 12/22/2020	Batcl Analysis D	h ID: 57 <sup>.</sup> Date: 12	159 2/24/2020	F	RunNo: <b>7</b> SeqNo: <b>2</b>	4246 620985	Units: <b>mg/K</b>	g		
Client ID: Prep Date: Analyte	LCSS 12/22/2020	Batcl Analysis I Result	h ID: <b>57</b> Date: <b>12</b> PQL	159 2/24/2020 SPK value	F SPK Ref Val	RunNo: <b>7</b> SeqNo: <b>2</b> %REC	<b>4246</b> 6 <b>20985</b> LowLimit	Units: <b>mg/K</b> HighLimit	<b>g</b> %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene	LCSS 12/22/2020	Batch Analysis E Result 0.95	h ID: <b>57</b> Date: <b>12</b> PQL 0.025	159 2/24/2020 SPK value 1.000	F SPK Ref Val	RunNo: 7 SeqNo: 2 %REC 95.2	4246 620985 LowLimit 80	Units: <b>mg/K</b> HighLimit 120	í <b>g</b> %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene	LCSS 12/22/2020	Batch Analysis E Result 0.95 0.96	h ID: <b>57</b> Date: <b>12</b> <u>PQL</u> 0.025 0.050	159 2/24/2020 SPK value 1.000 1.000	F SPK Ref Val 0 0	RunNo: 7 SeqNo: 2 %REC 95.2 96.1	4246 620985 LowLimit 80 80	Units: <b>mg/K</b> HighLimit 120 120	íg %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene	LCSS 12/22/2020	Batch Analysis E Result 0.95 0.96 0.96	h ID: 57 Date: 12 PQL 0.025 0.050 0.050	159 2/24/2020 SPK value 1.000 1.000 1.000	F SPK Ref Val 0 0 0	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9	4246 620985 LowLimit 80 80 80	Units: <b>mg/K</b> HighLimit 120 120 120	í <b>g</b> %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	LCSS 12/22/2020	Batcl Analysis E Result 0.95 0.96 0.96 2.9	h ID: <b>57</b> Date: <b>12</b> <u>PQL</u> 0.025 0.050 0.050 0.10	159 2/24/2020 SPK value 1.000 1.000 3.000	F SPK Ref Val 0 0 0 0	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2	4246 620985 LowLimit 80 80 80 80 80	Units: <b>mg/K</b> HighLimit 120 120 120 120	g %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom	LCSS 12/22/2020	Batcl Analysis E Result 0.95 0.96 0.96 2.9 1.1	h ID: <b>57</b> Date: <b>12</b> 0.025 0.050 0.050 0.10	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000	F SPK Ref Val 0 0 0 0 0	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2 111	4246 620985 LowLimit 80 80 80 80 80 80 80 80	Units: <b>mg/K</b> HighLimit 120 120 120 120 120 120	<b>g</b> %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID:	LCSS 12/22/2020 nofluorobenzene LCS-57178	Batcl Analysis I Result 0.95 0.96 0.96 2.9 1.1 Samp1	h ID: 57 Date: 12 PQL 0.025 0.050 0.050 0.10	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000 3.000	F SPK Ref Val 0 0 0 0 Tes	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2 111 tCode: El	4246 620985 LowLimit 80 80 80 80 80 PA Method	Units: mg/K HighLimit 120 120 120 120 120 8021B: Volat	íg %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID:	LCSS 12/22/2020 nofluorobenzene LCS-57178 LCSS	Batcl Analysis I Result 0.95 0.96 0.96 2.9 1.1 SampT Batcl	h ID: 57 Date: 12 0.025 0.050 0.050 0.050 0.10	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000 55 178	F SPK Ref Val 0 0 0 0 0 Tes F	RunNo: 7 SeqNo: 2 %REC 95.2 95.1 95.9 97.2 111 tCode: El RunNo: 7	4246 620985 LowLimit 80 80 80 80 80 80 PA Method 4246	Units: mg/K HighLimit 120 120 120 120 120 8021B: Volat	íg %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date:	LCSS 12/22/2020 nofluorobenzene LCS-57178 LCSS 12/23/2020	Batcl Analysis I Result 0.95 0.96 0.96 2.9 1.1 Samp1 Batcl Analysis I	h ID: 57 Date: 12 PQL 0.025 0.050 0.050 0.10	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000 3:S 178 2/25/2020	F SPK Ref Val 0 0 0 0 Tes F	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2 111 tCode: El RunNo: 7 SeqNo: 2	4246 620985 LowLimit 80 80 80 80 PA Method 4246 620986	Units: mg/K HighLimit 120 120 120 120 120 8021B: Volat	íg %RPD illes	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte	LCSS 12/22/2020 nofluorobenzene LCS-57178 LCSS 12/23/2020	Batcl Analysis I Result 0.95 0.96 0.96 2.9 1.1 SampT Batcl Analysis I Result	h ID: 57 Date: 12 PQL 0.025 0.050 0.050 0.050 0.10 Fype: LC h ID: 57 Date: 12 PQL	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000 SS 178 2/25/2020 SPK value	F SPK Ref Val 0 0 0 0 Tes F SPK Ref Val	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2 111 tCode: El RunNo: 7 SeqNo: 2 %REC	4246 620985 LowLimit 80 80 80 80 80 PA Method 4246 620986 LowLimit	Units: mg/K HighLimit 120 120 120 120 120 8021B: Volat Units: %Rec HighLimit	íg %RPD iiles %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte Surr: 4-Brom	LCSS 12/22/2020 nofluorobenzene LCS-57178 LCSS 12/23/2020	Batcl Analysis I 0.95 0.96 0.96 0.96 2.9 1.1 SampT Batcl Analysis I Result 1.1	h ID: 57 Date: 12 0.025 0.050 0.050 0.10 Type: LC h ID: 57 Date: 12 PQL	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000 3.000 1.000 SS 178 2/25/2020 SPK value 1.000	F SPK Ref Val 0 0 0 0 Tes F SPK Ref Val	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2 111 tCode: El RunNo: 7 SeqNo: 2 %REC 108	4246 620985 LowLimit 80 80 80 80 PA Method 4246 620986 LowLimit 80	Units: mg/K HighLimit 120 120 120 120 120 8021B: Volat Units: %Red HighLimit 120	íg %RPD illes %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte Surr: 4-Brom Sample ID:	LCSS 12/22/2020 nofluorobenzene LCS-57178 LCSS 12/23/2020 nofluorobenzene mb-57159	Batcl Analysis I Result 0.95 0.96 0.96 2.9 1.1 Samp Batcl Analysis I Result 1.1	h ID: 57 Date: 12 PQL 0.025 0.050 0.050 0.050 0.10 Type: LC h ID: 57 Date: 12 PQL	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000 SS 178 2/25/2020 SPK value 1.000 3LK	F SPK Ref Val 0 0 0 0 Tes SPK Ref Val Tes	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2 111 tCode: El RunNo: 7 SeqNo: 2 %REC 108 tCode: El	4246 620985 LowLimit 80 80 80 80 80 80 80 80 80 80	Units: mg/K HighLimit 120 120 120 120 8021B: Volat HighLimit 120 8021B: Volat	illes %RPD illes %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte Surr: 4-Brom Sample ID: Client ID:	LCSS 12/22/2020 nofluorobenzene LCS-57178 LCSS 12/23/2020 nofluorobenzene mb-57159 PBS	Batcl Analysis I 0.95 0.96 0.96 0.96 2.9 1.1 Samp1 Batcl Analysis I Result 1.1 Samp1 Batcl	h ID: 57 Date: 12 PQL 0.025 0.050 0.050 0.10 Type: LC h ID: 57 Date: 12 PQL	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000 3.000 1.000 3.000 1.000 3.000 1.000 3.000 1.000 3.0000 3.0000 3.0000 3.000 3.000 3.000	F SPK Ref Val 0 0 0 0 Tes SPK Ref Val SPK Ref Val	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2 111 tCode: El RunNo: 7 %REC 108 tCode: El RunNo: 7	4246 620985 LowLimit 80 80 80 80 PA Method 4246 620986 LowLimit 80 PA Method 4246	Units: mg/K HighLimit 120 120 120 120 120 8021B: Volat HighLimit 120 8021B: Volat	íg %RPD illes %RPD illes	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte Surr: 4-Brom Sample ID: Client ID: Prep Date: Prep Date:	LCSS 12/22/2020 nofluorobenzene LCS-57178 LCSS 12/23/2020 nofluorobenzene mb-57159 PBS 12/22/2020	Batcl Analysis I Result 0.95 0.96 0.96 2.9 1.1 SampT Batcl Analysis I SampT Batcl Analysis I	h ID: 57 Date: 12 0.025 0.050 0.050 0.050 0.10 Fype: LC h ID: 57 Date: 12 Fype: ME h ID: 57 Date: 12	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000 SS 178 2/25/2020 SPK value 1.000 3LK 159 2/25/2020	F SPK Ref Val 0 0 0 0 Tes SPK Ref Val Tes F SPK Ref Val	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2 111 tCode: El RunNo: 7 SeqNo: 2 %REC 108 tCode: El RunNo: 7 SeqNo: 2	4246 620985 LowLimit 80 80 80 80 PA Method 4246 620986 LowLimit 80 PA Method 4246 620988	Units: mg/K HighLimit 120 120 120 120 8021B: Volat Units: %Rec HighLimit 120 8021B: Volat Units: mg/K	Gg %RPD illes %RPD illes	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Sample ID: Client ID: Prep Date:	LCSS 12/22/2020 nofluorobenzene LCS-57178 LCSS 12/23/2020 nofluorobenzene mb-57159 PBS 12/22/2020	Batcl Analysis I Result 0.95 0.96 0.96 2.9 1.1 SampT Batcl Analysis I Result 1.1 SampT Batcl Analysis I	h ID: 57 Date: 12 0.025 0.050 0.050 0.050 0.050 0.10 Fype: LC h ID: 57 Date: 12 Fype: ME h ID: 57 Date: 12	159 2/24/2020 SPK value 1.000 1.000 3.000 1.000 SS 178 2/25/2020 SPK value 1.000 3LK 159 2/25/2020	F SPK Ref Val 0 0 0 0 Tes SPK Ref Val Tes F SPK Ref Val	RunNo: 7 SeqNo: 2 %REC 95.2 96.1 95.9 97.2 111 tCode: El RunNo: 7 SeqNo: 2 %REC 108 tCode: El RunNo: 7 SeqNo: 2	4246 620985 LowLimit 80 80 80 80 80 PA Method 4246 620986 LowLimit 80 PA Method 4246 620988	Units: mg/K HighLimit 120 120 120 120 120 8021B: Volat HighLimit 120 8021B: Volat Units: mg/K	illes %RPD illes %RPD illes	RPDLimit	Qual

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- NDNot Detected at the Reporting LimitPQLPractical 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

Released to Imaging: 9/16/2022 4:32:30 PM

Client: Devon Project: Todd 3	Energy 6G State 8									
Sample ID: mb-57159	BLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	RunNo: <b>74246</b>									
Prep Date: 12/22/2020	Analysis [	Date: 12	2/25/2020	5	eqNo: 2	620988	Units: mg/Kg	9		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			
Sample ID: mb-57178	Samp	Гуре: <b>МЕ</b>	BLK	Tes	tCode: El	PA Method	8021B: Volati	les		
Client ID: PBS	Batc	h ID: 57	178	F	lunNo: 74	4246				
Prep Date: 12/23/2020	Analysis [	Date: 12	2/25/2020	S	eqNo: 2	620989	Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

2012A67

29-Dec-20

WO#:

HALL ENVIRONMENTAL ANALYSIS LABORATORY			Ha TE M	Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com					Sample Log-In Check List		
Client Name:	Devon Ene	ergy	Work	Order Num	oer: 201	2A67			RcptNo: 1		
Received By:	Isaiah Or	tiz	12/22/2	2020 7:45:00	AM		I	-,0	24		
Completed By	Isaiah Or	tiz	12/22/2	020 8:04:59	AM		-7	1	2		
Reviewed By:	JR 121	Izzho									
Chain of Cu	stody										
1. Is Chain of	Custody comp	olete?			Yes	~	No		Not Present		
2. How was th	e sample deliv	vered?			Cou	rier					
Login											
3 Was an atte	mot made to	cool the same	aloc2		Vee		No	E.	NA 🗖		
o. was an alle	inprinade to	coor the same	JIES		Yes		INO				
4. Were all san	ples received	d at a tempera	ature of >0° C	to 6.0°C	Yes	~	No				
F								_			
5. Sample(s) ir	proper conta	iner(s)?			Yes	$\checkmark$	No				
6. Sufficient sa	mple volume	for indicated t	est(s)?		Yes	$\checkmark$	No				
7. Are samples	(except VOA	and ONG) pr	operly preserve	ed?	Yes	~	No				
8. Was preserv	ative added to	bottles?			Yes		No		NA 🗌		
9. Received at	east 1 vial wit	th headspace	<1/4" for AQ \	/OA?	Yes		No		NA 🗹		
10. Were any sa	mple contain	ers received b	proken?		Yes		No	V			
									# of preserved		
11. Does paperv	ork match bo	ttle labels?			Yes		No		for pH:		
(Note discrep	ancies on ch	ain of custody	()					_	(<2 or >12 unless noted)		
12. Are matrices	correctly ider	ntified on Cha	in of Custody?		Yes	~	No		Adjusted?		
13. Is it clear wh	at analyses w	ere requested	1?		Yes	V	No				
14. Were all hold (If no, notify)	ing times able customer for a	e to be met? authorization.)	)		Yes	~	No		Checked by: SGL 12/22/20		
Special Hand	ling (if app	olicable)									
15. Was client n	otified of all d	iscrepancies	with this order	?	Yes		No		NA 🔽		
Perso	Notified:	-		Date:							
By Wh	om:			Via:			hono 🗔	Eav			
Regar	tina:			via,				T dx			
Client	Instructions:										
16. Additional re	emarks:										
17 Cooler Int											
Cooler N	Temn °C	Condition	Seal Intact	Seal No	Seal D	ata	Signad	Du			
1	1.3	Good	Not Present	Gearing	Jear D	ale	Signed	Бу			
2	1.2	Good	Not Present								
	10	01									

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Page 1 of 1

Weiling Address:     Ch. L.     Text of the the thermonian main main main main main main main	Client: 0	Turn-Around Time: 5- day	
Mailing Address:     D. L. P.     Del 7L $\mathcal{L}$ Del 7L $\mathcal{L}$ May the set of the	Vevon Energy	Project Name:	ANALYSIS LABORATOR
Project #:         Project #:         Project #:         Project #:         Project #:           Phone #:         OC Containe         Image:         205 CoU-U - COS         Image:         705 CoU-U - COS         Image:         707 CoU-U - COS         700 COU-U - COS </td <td>Mailing Address: M _ / /</td> <td>Total 71. 6. 51 10 # 2</td> <td>www.hallenvironmental.com</td>	Mailing Address: M _ / /	Total 71. 6. 51 10 # 2	www.hallenvironmental.com
Phone #: $\partial CF_OOHI - CFS$ Phone #: $\partial CF_OOHI - CFS$ email or Fax#:       Project Manager:         OACC Package: $OACC Package:         OACC Package:       OACC Package:       OACC Package:         OACC Package:       OACC Package:       OACC Package:       OACC Package:       OACC Package:         Acconditation:       A C Compliance       Sampler:       TA A A A A         District       Maccold actor       OACC Package:       N A A A A A A A         District       A $	OCT F.K.	Project #:	Tel FDE 345 3075 Eav FDE 345 4107
email or Faxit:     Project Manager:       OACC Package:     OACC Package:       OACC Package:     Accreditation:       Data     Level 4 (Full Validation)       Accreditation:     Az Compliance       Standard     Accreditation:       Accreditation:     Az Compliance       Standard     Accreditation:       Accreditation:     Az Compliance       Stanple:     X R	Phone #:	205-00141-095	Analysis Request
OAQC Package:     Islandard     Islandard       Islandard     Accreditation:     Az Compliance       In REAC     Other     Intered 4 (Full Validation)       Accreditation:     Az Compliance       In NEAC     Other       In REAC     Other       In Reportation     Ster Exects       In Reportation     Ster Exects       In Reportation     Type       In Reportatin     Type	email or Fax#:	Project Manager:	() () () ()
Laboration     Laboration     Laboration     Laboration     Laboration     Laboration       Accreditation:     Accreditation:     Accreditation:     Accreditation     Accreditation       Conditation     Accreditation:     Accreditation:     Accreditation     Accreditation       Conditation     Accreditation:     Accreditation:     Accreditation     Accreditation       Conditation     Accreditation:     Accreditation     Accreditation     Accreditation       Conditation     Accreditation     Accreditation     Accreditation     Accreditation       Date     Time     Matrix     Sample Name     Accreditation     Accreditation       Date     Time     Matrix     Sample Name     Container     Preservative     HEAL No.       Diate     Time     Matrix     Sample Name     Container     Preservative     HEAL No.       Diate     Time     Matrix     Sample Name     Container     Preservative     HEAL No.       Diate     Time     Matrix     Sample Name     Container     Preservative     HEAL No.       Diate     Time     Preservative     Trape     Container     Preservative     Container       Diate     Time     Preservative     Container     Preservative     Container	QA/QC Package:		(8021 ) / MRd 31MS 51MS 51MS 51MS 51MS 51MS 51MS 51MS 5
Accellation: LAZ Compartee Accellation: LAZ Compartee INELCO IOTHER INEL II. TO OLAR ACCELLATION Date Time Matrix Sample Name I. Tope and HEAL NO Container Preservative HEAL NO ACRA 8 Metals Container Preservative HEAL NO ACRA 8 Metals CON ACRA 8 Metals ACRA 8 Metals CON ACRA 8 Metals ACRA 8 Metals CON ACRA 8 Metals ACRA 8 Metals		1 ataly Coller	seut 35 E 9 9 8 5 200 9 9 8 5 1 9 9 9 8 9 8 9 8 9 8 9 9 9 9 9 9 9 9 9
Image: Contrainer File     Image: File     <	Accreditation: Accreditation: Accompliance	Carloo: //	7/ 10 2/ 10
Date     Time     Matrix     Sample Name     Cooter Tempinetating CFI: See Recarks     Mit (C)		# of Coolers: 3	3E / 03, 10 o tals d 50 d 50 d 50 d 50
Date     Time     Matrix     Sample Name     Container     Preservative     HEAL No.       13:16     1.50     0-3.5'     WSoD-05     1/02     1/02     1/02     1/02       13:16     1.50     0-3.5'     WSoD-05     1/02     1/02     1/02     1/02       14:16     1.50     0-3.5'     WSoD-05     1/02     1/02     1/02     1/02       13:16     1.50     0-3.5'     WSoD-05     1/02     1/02     1/02     1/02       14:16     1.50     0-3.5'     WSoD-05     1/02     1/02     1/02     1/02       14:16     1.50     0-3.5'     MSoD-05     1/02     1/02     1/02     1/02       14:16     1.50     0-3.5'     MSoD-05     1/02     1/02     1/02       14:16     1.50     0-3.5'     MSoD-05     1/02     1/02     1/02		Cooler Temp(including CF): See Remarks (	ODE) MTI MTI MTI MTI MTI MTI MTI MTI
A: R     1: So     0: 2, S     WSoD - 05     Yoz     Yoz     N	Doto Timo Motriv Samula Nama	Container Preservative HEAL No.	2720 (S 2720 (
10/10/11/00/100     10/10/100     10/10/100       10/10/11/00     10/10/100     10/10/100       10/10/11/00     10/10/100     10/10/100       10/10/11/00     10/10/100     10/10/100       10/10/11/00     10/10/100     10/10/100       10/10/11/00     10/10/100     10/10/100       10/10/10     10/10     10/10/100       10/10/10     10/10     10/10       10/10/10     10/10     10/10	17-14 1.50 m o c' M/CD - OC		
Image: Second by:     Date:     Image: Second by:	CA-DOCAN (.8-0 0/1 1 1 10)	100 100	
Date: Time: Relinquished by: Date Time Remarks: C. M. Adle Confe			
Date:         Time:         Relinquished by:         Date         Date         C. Ma Alle         Control			
Date:     Time:     Relinquished by:     Date:     Time:     Remarks:     C:     Date:     C:     Date:     C:     Date:			
Date:     Time:     Relinquished by:     Date     Time:     Date     C: Ache Conde			
Date:     Time:     Relinquished by:     Mia:     Date     Time       Date:     Time:     Remarks:     C:     Anle     Conde			
Date:     Time:     Relinquished by:     Received by:     Mia:     Date     Time     Remarks:     CC:     Ache     Conde			
14 10 0 0 - CL. 11 CL. 11 CL. 11 CL. 11 CL. 11 CL.	Date: Time: Relinquished by:	Received by: Mia: Date Time	Remarks:         C:         Dial         Cooler's
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Date: Time: Relinquished by: Received by: Via: Date Time Under UL VEVON	Date: Time: Relinquished by:	Received by: Via: Date Time	WINGTON UEVON 1.220

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District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170 District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

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

CONDITIONS

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

#### CONDITIONS

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

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Action 25253