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Incident ID	nAPP2116940090
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Facility ID	
Application ID	

Closure

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

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

$\overline{\mathbf{X}}$ A scaled site and sampling diagram as described in 19.15.29	2.11 NMAC
X Photographs of the remediated site prior to backfill or photomust be notified 2 days prior to liner inspection)	os of the liner integrity if applicable (Note: appropriate OCD District office
X Laboratory analyses of final sampling (Note: appropriate OI	OC District office must be notified 2 days prior to final sampling)
X Description of remediation activities	
may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rehuman health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regularity.	ain release notifications and perform corrective actions for releases which of a C-141 report by the OCD does not relieve the operator of liability remediate contamination that pose a threat to groundwater, surface water, of a C-141 report does not relieve the operator of responsibility for plations. The responsible party acknowledges they must substantially conditions that existed prior to the release or their final land use in OCD when reclamation and re-vegetation are complete.
Printed Name: Dale Woodall	Title: Manager Environment
Printed Name: Dale Woodall Signature: email: dale.woodall@dvn.com	
Signature:email: _dale.woodall@dvn.com	Date: <u>2/6/2023</u>
Signature:email: _dale.woodall@dvn.com OCD Only	Date: <u>2/6/2023</u> Telephone: <u>(415)-318-4697</u>
Signature:email: _dale.woodall@dvn.com	Date: 2/6/2023
Signature: email: dale.woodall@dvn.com OCD Only Received by: Robert Hamlet Closure approval by the OCD does not relieve the responsible part	Date: 2/6/2023 Telephone: (415)-318-4697 Date: 10/5/2023 ty of liability should their operations have failed to adequately investigate and e water, human health, or the environment nor does not relieve the responsible
Signature:email:dale.woodall@dvn.com OCD Only Received by:Robert Hamlet Closure approval by the OCD does not relieve the responsible part remediate contamination that poses a threat to groundwater, surface party of compliance with any other federal, state, or local laws and the state of the state	Date: 2/6/2023 Telephone: (415)-318-4697 Date: 10/5/2023 ty of liability should their operations have failed to adequately investigate and e water, human health, or the environment nor does not relieve the responsible

District I
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District II
811 S. First St., Artesia, NM 88210
District III
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District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party			OGRID			
Contact Name			Contact To	tact Telephone		
Contact email			Incident #	(assigned by OCD)		
Contact mail	ing address			1		
			Location	of Release So	ource	
Latitude				Longitude		
			(NAD 83 in dec	cimal degrees to 5 decir	nal places)	
Site Name				Site Type		
Date Release	Discovered			API# (if app	olicable)	
Unit Letter	Section	Township	Range	Cour	nts.	1
Omit Letter	Section	Township	Range	Cour	ity	
Surface Owner	r: State	☐ Federal ☐ Tr	ibal Private (A	Name:)
			Natura and	d Volume of 1	Ralaasa	
Crude Oil		(s) Released (Select al Volume Release		calculations or specific	Volume Reco	volumes provided below) vered (bbls)
			` '		Volume Reco	
Produced Water Volume Released (bbls) Is the concentration of total dissolved solids (**)		ved solids (TDS)	Yes N	, ,		
in the produced water >10,000 mg/l?						
Condensate Volume Released (bbls)			Volume Reco	vered (bbls)		
Natural Gas Volume Released (Mcf)			Volume Reco	vered (Mcf)		
Other (describe) Volume/Weight Released (provide units)		e units)	Volume/Weig	ht Recovered (provide units)		
Cause of Rele	ease					

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Application ID

Was this a major release as defined by	If YES, for what reason(s) does the respon	nsible party consider this a major release?
19.15.29.7(A) NMAC?		
☐ Yes ☐ No		
If VES, was immediate n	otice given to the OCD? By whom? To w	nom? When and by what means (phone, email, etc)?
II 1123, was illillediate lie	once given to the OCD: By whom: To wi	ioni: when and by what means (phone, eman, etc):
	Initial R	esponse
The responsible p	party must undertake the following actions immediate	y unless they could create a safety hazard that would result in injury
The source of the rele	ease has been stopped.	
☐ The impacted area ha	s been secured to protect human health and	the environment.
Released materials ha	we been contained via the use of berms or o	likes, absorbent pads, or other containment devices.
	ecoverable materials have been removed an	
If all the actions described	d above have <u>not</u> been undertaken, explain	why:
D 1015200D (4) NIM	(A C d	The Community of the Co
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.		
		best of my knowledge and understand that pursuant to OCD rules and fications and perform corrective actions for releases which may endanger
public health or the environn	ment. The acceptance of a C-141 report by the C	OCD does not relieve the operator of liability should their operations have
		at to groundwater, surface water, human health or the environment. In responsibility for compliance with any other federal, state, or local laws
Printed Name:		Title:
Signature: Kendra	DeHoyos	Date:
		Telephone:
OCD Only		
	Marcus	Date:10/5/2021
Received by.		Date

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Incident ID	nAPP2116940090
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Facility ID	
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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?	>100 (ft bgs)	
Did this release impact groundwater or surface water?	Yes X No	
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes X 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 X No	
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes X 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 X 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 🏻 No	
Are the lateral extents of the release within a 100-year floodplain?	Yes X No	
Did the release impact areas not 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		

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
- X Data table of soil contaminant concentration data
- X Depth to water determination
- X 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.

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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Printed Name: Dale Woodall	Title: _Environmental Professional	
Signature: Dale Woodall	Date: _5/10/2023	
mail: dale.woodall@dvn.com Telephone: _(405)-318-4697		
OCD Only		
Received by:	Date:	

	Page 6 of 4.	19
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Facility ID		
Application ID		

Remediation Plan

Remediation Plan Checklist: Each of the following items must be	included in the plan.	
 ☑ Detailed description of proposed remediation technique ☑ Scaled sitemap with GPS coordinates showing delineation points ☑ Estimated volume of material to be remediated ☑ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC ☑ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) 		
Deferral Requests Only: Each of the following items must be con-	firmed as part of any request for deferral of remediation.	
Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.		
Extents of contamination must be fully delineated.		
Contamination does not cause an imminent risk to human health.	the environment, or groundwater.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Printed Name: Dale Woodall	Title: Environmental Professional	
Signature: Dale Woodall	Date: 5/10/2023	
email:dale.woodall@dvn.com	Telephone: (405)-318-4697	
OCD Only		
Received by:	Date:	
Approved Approved with Attached Conditions of A	Approval	
Signature:	Date:	

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

Incident ID nAPP2116940090
District RP
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Application ID

Closure

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

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

X Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
X Laboratory analyses of final sampling (Note: appropriate OD	C District office must be notified 2 days prior to final sampling)
X Description of remediation activities	
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and reluman health or the environment. In addition, OCD acceptance of	ations. The responsible party acknowledges they must substantially onditions that existed prior to the release or their final land use in
Printed Name: Dale Woodall	Title: Manager Environment
Signature:	Date: <u>2/6/2023</u>
email: dale.woodall@dvn.com	Telephone: (415)-318-4697
OCD O-I-	
OCD Only	D. (
Received by:	Date:
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible for regulations.
Closure Approved by:	Date:
Printed Name:	Title:

NAPP2116940090

Spill Volume(Bbls) Calculator				
In	Inputs in blue, Outputs in red			
Co	ntaminated S	oil measurement		
Area (squa	Area (square feet) Depth(inches)			
7877.	949	<u>1.000</u>		
Cubic Feet of S	Soil Impacted	<u>656.496</u>		
Barrels of So	il Impacted	117.02		
Soil T	уре	Clay/Sand		
Barrels of water Assuming 100% Saturation		<u>17.55</u>		
Saturation	Fluid pres	present with shovel/backhoe		
Estimated Barrels of water Released 17.		17.55		
Free Standing Fluid Only				
Area (square feet) Depth(inches)				
2500		2.000		
Standing fluid		<u>74.272</u>		
Total fluids spilled		91.825		



May 10, 2023 Vertex Project #: 22E-02537

Spill Closure Report: Helios 6 Federal Com 1H and 3H Battery/Hackberry 6 Federal 1 Well Pad

Unit J, Section 6, Township 19 South, Range 31 East,

API: N/A County: Eddy

Incident ID: nAPP2116940090, nAPP2219226827

Prepared For: Devon Energy Production Company

6488 Seven Rivers Highway Artesia, New Mexico 88210

New Mexico Oil Conservation Division - District 2 - Artesia

811 S. 1st Street

Artesia, New Mexico 88210

Devon Energy Production Company (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment for multiple produced water releases at the same location, registered at Helios 6 Federal Com 1H and 3H Battery, and Hackberry 6 Federal 1 Battery Well Pad, (hereafter referred to as "Helios/Hackberry"). Devon submitted initial C-141 Release Notifications (Attachment 1) to New Mexico Oil Conservation Division (NMOCD) District 2 on July 7, 2021, and July 11, 2022. Incident IDs nAPP2116940090 and nAPP2219226827 were assigned to the incidents.

This letter provides a description of the release assessments and remediation activities and demonstrates that closure criteria established in Table I of 19.15.29.12 *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) are being met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for the closure of these releases, with the understanding that they were reclaimed per 19.15.29.13.

Site Characterization

The site is located approximately 10 miles southeast of Loco Hills, New Mexico at 32.687850 ° N, 103.907000 ° W (Google Inc., 2022). The legal location for the site is Section 6, Township 19 South and Range 31 East in Eddy County, New Mexico. The spill area is located on Bureau of Land Management property. An aerial photograph and site schematic are included on Figure 1 (Attachment 2).

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2022) indicates the site's surface geology is comprised primarily of Qp — Piedmont alluvial deposits (Holocene to lower Pleistocene). The predominant soil texture on the site is gravelly fine sandy loam. The Natural Resources Conservation Service Web Soil Survey characterizes the predominant soil texture on the site as Simona gravelly fine sandy loam. It tends to be well drained with very high runoff and very low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2022).

Devon Energy Production Company

Helios 6 Federal Com 1H and 3H Battery/Hackberry 6 Federal 1 Well Pad

2023 Spill Assessment and Closure May 2023

The surrounding landscape is associated with plains, uplands, fan piedmonts, and alluvial fans at elevations of 2,842 to 4,500 feet above sea level. The climate is semi-arid, with annual precipitation ranging between 8 to 13 inches. Historically, the plant community has grassland aspect, dominated by grasses with shrubs. Black grama is dominant with yucca, javalina bush, range ratany, prickly pear and mesquite. Overgrazing and extended drought can reduce grass cover (United States Department of Agriculture, Natural Resources Conservation Service, 2022).

There is no surface water located at Helios/Hackberry. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 Mexico Administrative Code (New Mexico Oil Conservation Division, 2018), is the Pecos River located approximately 800 feet west of the site (Google Inc., 2022). There are no continuous flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Incident Description

nAPP2116940090

The first release occurred on June 17, 2021, due to a pinhole leak on a water transfer line. The incident resulted in the release of approximately 91.82 barrels of produced water into the pasture north of the pad site. Approximately 73 barrels of free fluid were removed during the initial spill clean-up.

nAPP2219226827

The second release was discovered on July 9, 2022, due to equipment failure on the same pipeline as the first release. The incident resulted in the release of approximately 7 barrels of produced water into the pasture north of the pad site. Approximately 2 barrels of free fluid were removed during the initial spill clean-up.

Closure Criteria Determination

The depth to groundwater was determined by drilling a borehole permitted by the New Mexico Office of the State Engineer within a 0.5-mile radius of the site. The borehole was drilled to a depth of 105 feet, was left open as per requirements on the WR-07 Application for Permit to Drill a well With No Water Right, and an interface probe was lowered to the bottom of the borehole to investigate if groundwater may have accumulated in the 72-hour waiting period; no water was present at that time. The borehole was then plugged as per requirements on the WR-08, Well Plugging Plan of Operations. Documentation used in closure criteria determination (Attachment 4) research was included in the Characterization and Remediation Plan submitted and approved by NMOCD. The DFR associated with this site visit is included in Attachment 5.

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 1.

Devon Energy Production Company

Helios 6 Federal Com 1H and 3H Battery/Hackberry 6 Federal 1 Well Pad

2023 Spill Assessment and Closure May 2023

Table 1. Closure Criteria for Soils to Remediation & Reclamation Standards			
	Constituent	Limit	
0-4 feet bgs (19.15.29.13)	Chloride	600 mg/kg	
	TPH (GRO+DRO+MRO)	100 mg/kg	
DTGW > 100 feet (19.15.29.12)	Chloride	20,000 mg/kg	
	TPH (GRO+DRO+MRO)	2,500 mg/kg	
	GRO+DRO	1,000 mg/kg	
	BTEX	50 mg/kg	
	Benzene	10 mg/kg	

bgs – below ground surface

DTGW - depth to groundwater

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

BTEX - Benzene, toluene, ethylbenzene, and xylenes

Remedial Actions

An initial site inspection was completed for the first release on June 28, 2021, which identified the location of the impact specified in the initial C-141 Report and estimated the approximate volume of the release. The impacted area was determined to be approximately 158 feet long and 104 feet wide; the total affected area was determined to be 1,527 square feet. The DFR associated with the site inspection is included in Attachment 5.

A site inspection was conducted for the second release on November 3, 2022. More horizontal boreholes were established to ensure that the second release did not migrate further than the first release. The two releases were vertically delineated to the >100' criteria to 4 feet below ground surface (bgs) as required by NMOCD. The DFR associated with this site visit is included in Attachment 5.

Remediation efforts began on January 4, 2023, and were completed on January 20, 2023. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on a total of 126 sample points and consisted of analysis using a photoionization detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and silver nitrate titration (chlorides). Field screening results were used to identify areas requiring further remediation from those areas showing concentrations below determined closure criteria levels. Soils were removed to a depth of 4 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility.

During excavation activities, Vertex provided three 48-hour notifications of confirmation sampling to NMOCD between December 28, 2022, and January 19, 2023 (Attachment 6), as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC. Confirmatory composite samples were collected from the base and walls of the excavation in 200-square-foot increments. A total of 131 samples, including one background sample, were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory under chain-of-custody (COC) protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 3 (Attachment 3) and laboratory data reports are included in Attachment 7. All confirmatory samples collected and analyzed were below the closure criteria for the site.

2023 Spill Assessment and Closure May 2023

Closure Request

Vertex recommends no additional remediation action to address the releases at Helios/Hackberry. Laboratory analyses of confirmatory samples collected show final confirmatory values below the selected NMOCD closure criteria for areas where depth to groundwater is more than 100 feet bgs as presented in Table 1. There are no anticipated risks to human, ecological, or hydrological receptors at this release site.

The excavation will be backfilled with non-waste-containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent water ponding and erosion. The site will then be reclaimed and seeded as required by Subsection A of 19.15.29.13 NMAC. This will take place when closure approval is received from NMOCD.

Vertex requests that these incidents (nAPP2116940090 and nAPP2219226827) 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 are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain on the releases at Helios/Hackberry.

Should you have any questions or concerns, please do not hesitate to contact Chance Dixon at 575.988.1472 or cdixon@vertex.ca.

Sally Carttar	5/10/2023	
Sally Carttar, B.A.	Date	
INT. ENVIRONMENTAL TECHNOLOGIST, REPORTING		
Chance Dixon	5/10/2023	
Chance Dixon, B.Sc.	Date	
PROJECT MANAGER, REPORT REVIEW		

Attachments

Attachment 1. NMOCD C-141 Reports

Attachment 2. Figures

Attachment 3. Tables

Attachment 4. Closure Criteria for Soils Impacted by a Release Research Determination Documentation

Attachment 5. Daily Field Reports with Photographs

Attachment 6. Required 48-Hour Notification of Confirmatory Sampling to Regulatory Agencies

Attachment 7. Laboratory Data Reports and Chain of Custody Forms

2023 Spill Assessment and Closure May 2023

Reference

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

Helios 6 Federal Com 1H and 3H Battery/Hackberry 6 Federal 1 Well Pad

2023 Spill Assessment and Closure May 2023

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, 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 judgment of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

ATTACHMENT 1

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

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

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Application ID	

Release Notification

Responsible Party

		OGRID	OGRID			
Contact Name Contact T		elephone				
Contact email Inciden			Incident #	t # (assigned by OCD)		
Contact mail	ing address			1		
			Location	of Release So	ource	
Latitude				Longitude		
			(NAD 83 in dec	cimal degrees to 5 decir	nal places)	
Site Name				Site Type		
Date Release	Discovered			API# (if app	olicable)	
Unit Letter	Section	Township	Range	Cour	nts.	1
Omit Letter	Section	Township	Range	Cour	ity	
Surface Owner	r: State	☐ Federal ☐ Tr	ibal Private (A	Name:)
			Natura and	d Volume of 1	Ralaasa	
Crude Oil		(s) Released (Select al Volume Release		calculations or specific	Volume Reco	volumes provided below) vered (bbls)
Produced		Volume Release	` '		Volume Reco	
Troduced	Is the concentration of total dissolved solids (TDS		ved solids (TDS)	Yes N	, ,	
in the produced water >10,000 mg/l?						
Condensa	te	Volume Release	d (bbls)		Volume Reco	vered (bbls)
Natural Gas Volume Released (Mcf)			Volume Recovered (Mcf)			
Other (describe) Volume/Weight Released (provide units)		e units)	Volume/Weight Recovered (provide units)			
Cause of Rele	ease					

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District RP		

		Гас	ility ID	
		Ap	plication ID	
Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the respons	ible party consider this	n major release?	
☐ Yes ☐ No				
If YES, was immediate n	otice given to the OCD? By whom? To who	m? When and by what	means (phone, er	nail, etc)?
	Initial Re	sponse		
The responsible	party must undertake the following actions immediately	unless they could create a safe	ety hazard that would	result in injury
☐ The source of the rele	ease has been stopped.			
☐ The impacted area ha	as been secured to protect human health and t	he environment.		
Released materials ha	ave been contained via the use of berms or di	kes absorbent nads or o	ther containment	devices
		•	ther contaminent	devices.
All free liquids and re	ecoverable materials have been removed and	managed appropriately.		
If all the actions describe	d above have <u>not</u> been undertaken, explain w	hy:		
has begun, please attach	MAC the responsible party may commence rea narrative of actions to date. If remedial entrarea (see 19.15.29.11(A)(5)(a) NMAC), pl	forts have been success	fully completed	or if the release occurred
regulations all operators are public health or the environ failed to adequately investig	ormation given above is true and complete to the bar required to report and/or file certain release notification. The acceptance of a C-141 report by the OC gate and remediate contamination that pose a threat of a C-141 report does not relieve the operator of respectively.	cations and perform correc CD does not relieve the ope to groundwater, surface w	tive actions for rele rator of liability sho rater, human health	eases which may endanger ould their operations have or the environment. In
Printed Name:		Title:		
Signature: Kendra	DeHoyos	Date:	-	
		Telephone:		

Date: __10/5/2021

Received by: Ramona Marcus

OCD Only

	Page 18 of 4.	19
Incident ID	nAPP2116940090	
District RP		
Facility ID		
Application ID		

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	Yes X No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes X 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 X No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes X 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 X 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 🏻 No
Are the lateral extents of the release within a 100-year floodplain?	Yes X No
Did the release impact areas not 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 ver	tical 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
- X Data table of soil contaminant concentration data
- X Depth to water determination
- X 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: 5/10/2023 2:45:22 PM Form C-141 State of New Mexico Page 4 Oil Conservation Division

	rage 19 0j 41
Incident ID	nAPP2116940090
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Application ID

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Printed Name: Dale Woodall	Title: _Environmental Professional	
Signature: Dala Woodall	Date: _5/10/2023	
email: _dale.woodall@dvn.com	Telephone: (405)-318-4697	
OCD Only		
Received by:	Date:	

D: 5/10/2023 2:45:22 PM State of New Mexico

Incident ID	nAPP2116940090
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan.					
Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)					
Deferral Requests Only: Each of the following items must be com-	firmed as part of any request for deferral of remediation.				
Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.					
Extents of contamination must be fully delineated.					
Contamination does not cause an imminent risk to human health	, the environment, or groundwater.				
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.					
Printed Name: Dale Woodall	Title: _Environmental Professional				
Signature: Dale Woodall	Date: 5/10/2023				
email: dale.woodall@dvn.com	Telephone: (405)-318-4697				
OCD Only					
Received by:	Date:				
Approved	Approval Denied Deferral Approved				
Signature:	Date:				

Received by OCD: 5/10/2023 2:45:22 PM Form C-141 State of New Mexico Oil Conservation Division Page 6

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Incident ID District RP Facility ID Application ID

Closure

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

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

iner integrity if applicable (Note: appropriate OCD District office
et office must be notified 2 days prior to final sampling)
e best of my knowledge and understand that pursuant to OCD rules e notifications and perform corrective actions for releases which I report by the OCD does not relieve the operator of liability contamination that pose a threat to groundwater, surface water, report does not relieve the operator of responsibility for The responsible party acknowledges they must substantially a that existed prior to the release or their final land use in en reclamation and re-vegetation are complete. Manager Environment 2/6/2023
none: (415)-318-4697
Date:
lity should their operations have failed to adequately investigate and uman health, or the environment nor does not relieve the responsible ations.
uman health, or the environment nor does not relieve the responsible

NAPP2116940090

Spill Volume(Bbls) Calculator			
Inputs in blue, Outputs in red			
Cor	ntaminated S	oil measurement	
Area (square feet) Depth(in		Depth(inches)	
7877.	949	1.000	
Cubic Feet of S	oil Impacted	<u>656.496</u>	
Barrels of Soi	I Impacted	117.02	
Soil T	уре	Clay/Sand	
Barrels of water Assuming 100% Saturation		17.55	
Saturation	Fluid pres	sent with shovel/backhoe	
Estimated Barrels of water Released 17.55		17.55	
Free Standing Fluid Only			
Area (square feet)		Depth(inches)	
2500		2.000	
Standing	g fluid	74.272	
Total fluid	s spilled	91.825	

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

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party		OGRID				
Contact Name Contact T			elephone			
Contact emai	Contact email Incident #			(assigned by OCD)		
Contact mail	ing address			1		
			Location	of Release So	ource	
Latitude				Longitude		
			(NAD 83 in dec	cimal degrees to 5 decir	nal places)	
Site Name				Site Type		
Date Release	Discovered			API# (if app	olicable)	
Unit Letter	Section	Township	Range	Cour	nts.	1
Omit Letter	Section	Township	Range	Cour	ity	
Surface Owner	r: State	☐ Federal ☐ Tr	ibal Private (A	Name:)
			Natura and	d Volume of 1	Ralaasa	
Crude Oil		(s) Released (Select al Volume Release		calculations or specific	Volume Reco	volumes provided below) vered (bbls)
Produced		Volume Release	` '		Volume Reco	
Troduced	Is the concentration of total dissolved solids (T)		ved solids (TDS)	Yes N	, ,	
	in the produced water >10,000 mg/l?					
Condensa	te	Volume Release	d (bbls)		Volume Recovered (bbls)	
☐ Natural Gas Volume Released (Mcf)			Volume Reco	vered (Mcf)		
Other (des	scribe)	Volume/Weight	Released (provide	e units)	Volume/Weight Recovered (provide units)	
Cause of Rele	ease					

Received by OCD: 5/10/2023 2:45:22 PM1 State of New Mexico
Page 2 Oil Conservation Division

	Page 23eoj 4)
ncident ID	
District RP	
acility ID	

Application ID

Was this a major release as defined by	sible party consider this a major release?
19.15.29.7(A) NMAC?	
☐ Yes ☐ No	
ICATE OF THE OFFICE OFF	9 WH 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
If YES, was immediate notice given to the OCD? By whom? To wh	om? When and by what means (phone, email, etc)?
Initial Ro	esponse
The responsible party must undertake the following actions immediately	y unless they could create a safety hazard that would result in injury
☐ The source of the release has been stopped.	
☐ The impacted area has been secured to protect human health and	the environment.
Released materials have been contained via the use of berms or d	ikes, absorbent pads, or other containment devices.
All free liquids and recoverable materials have been removed and	d managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain v	why:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence rehas begun, please attach a narrative of actions to date. If remedial within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), p	efforts have been successfully completed or if the release occurred
I hereby certify that the information given above is true and complete to the	
regulations all operators are required to report and/or file certain release noti public health or the environment. The acceptance of a C-141 report by the C	
failed to adequately investigate and remediate contamination that pose a thre addition, OCD acceptance of a C-141 report does not relieve the operator of	
and/or regulations.	
Printed Name:	Title:
Signature: Kendra Ruiz	Date:
email:	Telephone:
OCD Only	
Received by:Jocelyn Harimon	Date:

Sp	oill Volume(E	Bbls) Calculator	
II.	nputs in blue	, Outputs in red	
Co	ntaminated S	Soil measurement	
Length(Ft)	Width(Ft)	Depth(Ft)	
<u>35</u>	<u>15.000</u>	0.500	
Cubic Feet of S	Soil Impacted	<u>262.500</u>	
Barrels of So	il Impacted	46.79	
Soil T	уре	Clay/Sand	
Barrels of Oil Assuming 100% Saturation		7.02	
Saturation Damp		no fluid when squeezed	
Estimated Barrels of Oil Released		0.70	
	Free Standi	ng Fluid Only	
Length(Ft)	Width(Ft)	Depth(Ft)	
<u>0</u>	0.000	0.000	
Standing fluid		0.000	
Total fluids spilled		7.019	

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

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

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

CONDITIONS

Action 127694

CONDITIONS

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	127694
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimor	None	7/21/2022

	Page 27 of 4.	19
Incident ID	nAPP2219226827	
District RP		
Facility ID		
Application ID		

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	Yes X No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes X 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 X No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes X 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 X 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 🏻 No
Are the lateral extents of the release within a 100-year floodplain?	Yes X No
Did the release impact areas not 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 ver	tical 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
- X Data table of soil contaminant concentration data
- X Depth to water determination
- X 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.

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Incident ID	nAPP2219226827
District RP	
Facility ID	
Application ID	

best of my knowledge and understand that pursuant to OCD rules and iffications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In responsibility for compliance with any other federal, state, or local laws
Titler Environmental Professional
Date: _5/10/2023
Telephone: _(405)318-4697
Date:
(

te of New Mexico

Incident ID	nAPP2219226827
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: Each of the following items must be	included in the plan.
 X Detailed description of proposed remediation technique X Scaled sitemap with GPS coordinates showing delineation points X Estimated volume of material to be remediated X Closure criteria is to Table 1 specifications subject to 19.15.29.13 X Proposed schedule for remediation (note if remediation plan times) 	2(C)(4) NMAC
Deferral Requests Only: Each of the following items must be conjugated	firmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around prodeconstruction.	
Extents of contamination must be fully delineated.	
Contamination does not cause an imminent risk to human health,	the environment, or groundwater.
I hereby certify that the information given above is true and complete rules and regulations all operators are required to report and/or file complete which may endanger public health or the environment. The acceptant liability should their operations have failed to adequately investigate surface water, human health or the environment. In addition, OCD a responsibility for compliance with any other federal, state, or local lateral states and complete responsibility for compliance with any other federal, state, or local lateral states and complete rules and responsibility for compliance with any other federal, state, or local lateral rules and responsibility for compliance with any other federal, state, or local lateral rules and responsibility for compliance with any other federal, state, or local lateral rules and responsibility for compliance with any other federal, state, or local lateral rules and responsibility for compliance with any other federal rules and responsibility for compliance with any other federal rules and responsibility for compliance with any other federal rules and rules are required to report and responsibility for compliance with any other federal rules and rules are required to report and responsibility for rules are required to report and rules are required to ru	ertain release notifications and perform corrective actions for releases ace of a C-141 report by the OCD does not relieve the operator of and remediate contamination that pose a threat to groundwater, cceptance of a C-141 report does not relieve the operator of
Printed Name: Dale Woodall	Title: Environmental Professional
Signature: Dale Woodall	Date: _5/10/2023
email: dale.woodall@dvn.com	Telephone: (405)-318-4697
OCD Only	
Received by:	Date:
Approved Approved with Attached Conditions of A	Approval
Signature:	Date:

Received by OCD: 5/10/2023 2:45:22 PM Form C-141 State of New Mexico Page 6 Oil Conservation Division

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

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Incident ID	nAPP2116940090
District RP	
Facility ID	
Application ID	

Closure

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

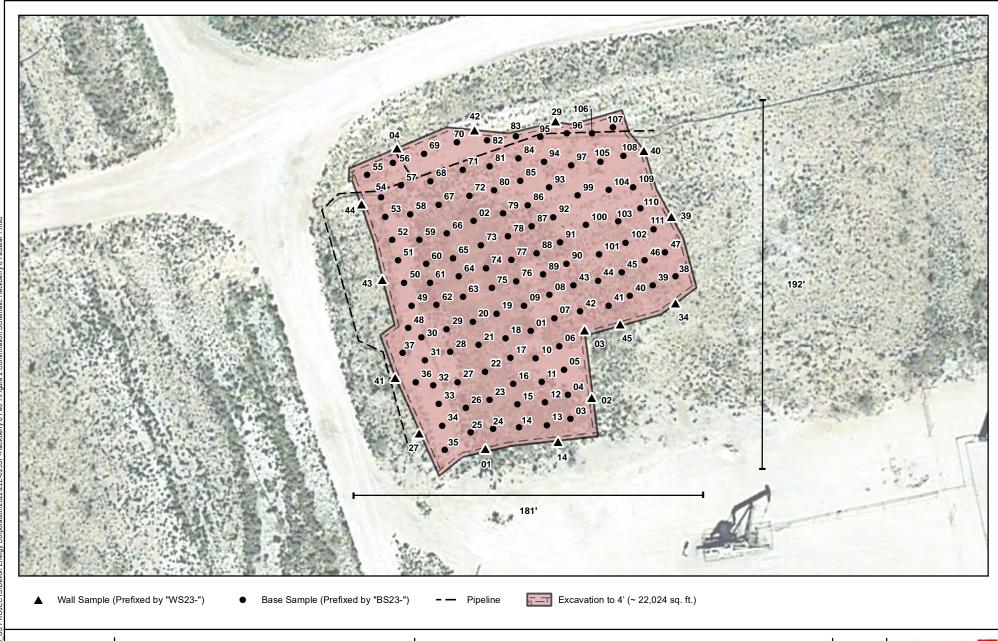
Closure Report Attachment Checklist: Each of the following items must be included in the closure report.

Signature:	X Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
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: Dale Woodall Title: Manager Environment Signature: Date: 2/6/2023 Telephone: (415)-318-4697 OCD Only Received by: Date: Date: Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by: Date: Date: Date: Date:	X Laboratory analyses of final sampling (Note: appropriate ODC	C District office must be notified 2 days prior to final sampling)
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: Dale Woodall Title: Manager Environment Signature: Date: 2/6/2023 email: dale.woodall@dvn.com Telephone: (415)-318-4697 OCD Only Received by: Date: Date: Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by: Date: Date: Date: Date: Date:	X Description of remediation activities	
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: Dale Woodall Title: Manager Environment Signature: Date: 2/6/2023 email: dale.woodall@dvn.com Telephone: (415)-318-4697 OCD Only Received by: Date: Date: Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by: Date: Date: Date: Date: Date:		
Date: 2/6/2023 email: dale.woodall@dvn.com Telephone: (415)-318-4697 OCD Only Received by: Date: Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by: Date:	and regulations all operators are required to report and/or file certai may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rer human health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regular restore, reclaim, and re-vegetate the impacted surface area to the co	n release notifications and perform corrective actions for releases which a C-141 report by the OCD does not relieve the operator of liability mediate contamination that pose a threat to groundwater, surface water, a C-141 report does not relieve the operator of responsibility for ations. The responsible party acknowledges they must substantially nditions that existed prior to the release or their final land use in
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by:	Printed Name: Dale Woodall	Title: Manager Environment
OCD Only Received by: Date: Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by: Date:	Signature:	Date: 2/6/2023
Received by: Date: Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by: Date:	email: dale.woodall@dvn.com	Telephone: (415)-318-4697
Received by: Date: Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by: Date:		
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by: Date:	OCD Only	
remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Closure Approved by: Date:	Received by:	Date:
	remediate contamination that poses a threat to groundwater, surface	water, human health, or the environment nor does not relieve the responsible
Printed Name: Title:	Closure Approved by:	Date:
	Printed Name:	Title:

ATTACHMENT 2

Date: Nov 07/22

Note: Background imagery from Google Earth, 2017. Feature locations from GPS, Verex Professional Services Ltd., 2022







NAD 1983 UTM Zone 13N Date: Jan 30/23



Confirmation Schematic
Hackberry 6 Federal 1 Wellpad

FIGURE:



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

Note: Background imagery from Google Earth, 2023. Features from GPS. Vertex Professional Services Ltd., 2023.

ATTACHMENT 3

Client Name: Devon Energy Production Company

Site Name: Helios 6 Fed Com 1H 3H

Project #: 21E-00580-003

Lab Report(s): 2106D66, 2107069

	Table 2. Init	ial Characteriza	tion Sam	ple/Field	Screen a	nd Labora	atory Res	ults - Dep	th to Gro	undwate	r >100 fe	et bgs	
	Sample Descrip	otion	Fi	eld Screeni	ning Petroleum Hydrocarbons								
				oF!		Vol	atile	Extractable					Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroF	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	, Total Petroleum Hydrocarbons (TPH)	Chloride
BG21-01	0	6/22/2021	(ppm) 0	(ppm)	(+/-) ND	(mg/kg) ND	(mg/kg) ND	(mg/kg) ND	(mg/kg) ND	(mg/kg) ND	(mg/kg) ND	(mg/kg) ND	(mg/kg) ND
BG21-01 BG21-01	1	6/22/2021	0		ND	ND ND	ND ND	ND	ND ND	ND ND	ND ND	ND ND	ND ND
BG21-01 BG21-01	2	6/22/2021	0	39	ND	ND	ND	ND	ND ND	ND	ND	ND	ND
BH21-01	0.5	6/22/2021	1	_	8,188	ND	ND	ND	ND	ND	ND	ND	12,000.0
BH21-01	1	6/22/2021	1	_	7,091	—	_	_	_	_	_	_	
BH21-01	2	6/22/2021	1	_	8,083	_	_	_	_	_	_	_	_
BH21-01	3	6/22/2021	2	1,037	7,233	_	_	_	_	_	_	_	_
BH21-01	4	6/30/2021	2	_	2,411	_	_	_	_	_	_	_	
BH21-01	6	6/30/2021	1	_	9,427	_	_	_	_	_	_	_	_
BH21-01	8	6/30/2021	0	_	3,319	_	_	_	_	_	_	_	_
BH21-01	10	6/30/2021	1	_	7,468	_	_	_	_	_	_	_	_
BH21-01	11	6/30/2021	1	_	6,661	_	_	_	_	_	_	_	11,000.0
BH21-02	0.5	6/22/2021	3	_	5,590	ND	ND	ND	ND	ND	ND	ND	11,000.0
BH21-02	1	6/22/2021	1	_	8,520	_	_	_	_	_	_	_	_
BH21-02	2	6/22/2021	0	_	9,671	_	_	_	_	_	_	_	_
BH21-02	3	6/22/2021	1	57	6,289	_	_	_	_	_	_	_	_
BH21-02	3.5	6/23/2021	_	_	7,630	_	_	_	_	_	_	_	_



	Table 2. Init	tial Characteriza	tion Sam	ple/Field	Screen a	nd Labora	atory Res	ults - Dep	th to Gro	undwate	r >100 fe	et bgs	
;	Sample Descri _l	ption	Fi	eld Screeni	ng	Petroleum Hydrocarbons							
											Inorganic		
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroF	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(+/-)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH21-02	4	6/30/2021	1		5,097		_	_	_	_	_	_	_
BH21-02	6	6/30/2021	1		4,215		_	_	_	_	_	_	_
BH21-02	8	6/30/2021	1		2,338		_	_	_	_	_	_	_
BH21-02	12	6/30/2021	1	41	331	ND	ND	ND	ND	ND	ND	ND	150.0
BH21-03	0.5	6/22/2021	_	_	9,824	ND	ND	ND	ND	ND	ND	ND	13,000.0
BH21-03	1	6/22/2021		_	8,835		_	_	_	_	_	_	_
BH21-03	2	6/22/2021	_	_	8,614		_	_	_	_	_	_	_
BH21-03	3	6/22/2021	_	_	8,556	_	_	_	_	_	_	_	_
BH21-03	3.5	6/23/2021	_		10,366	_	_	_	-	_	_	_	_
BH21-03	4	6/28/2021	_		6,279	_	_		ı	-	1	-	_
BH21-03	5	6/28/2021	_	_	6,256	_	_	_	-	-	-	_	_
BH21-03	7	6/28/2021	-	1	5,092	_	-	_	ı	1	ı	1	_
BH21-03	8	6/28/2021	_	_	5,658	_	_	_	ı	1	1	-	_
BH21-03	9	6/28/2021	_	_	1,367	_	_	-	-	_	_	_	_
BH21-03	10	6/30/2021	0	_	950	_	_	1	1	-	-	_	_
BH21-03	11	6/30/2021	1		664	_	_	_		_		_	
BH21-03	12	6/30/2021	1	44	107	ND	ND	ND	ND	ND	ND	ND	170.0
BH21-04	0.5	6/22/2021	_	_	14,605	ND	ND	ND	28	98	28	126	18,000.0
BH21-04	1	6/22/2021	_	_	6,090	_	_	_	_	_	_	_	_
BH21-04	2	6/22/2021	_	_	7,618	_	_	_	_	_	_	_	_
BH21-04	3	6/22/2021	_	_	7,257	_	_	_	_	_	_	_	_
BH21-04	3.5	6/23/2021	_	_	10,044	_	_	_	_	_	_	_	_
BH21-04	4	6/30/2021	0	_	2,932	_	_	_	_	_	_	_	_



	Table 2. Init	ial Characteriza	tion Sam	ple/Field	Screen a	nd Labora	atory Res	ults - Dep	th to Gro	undwate	r >100 fe	et bgs	
	Sample Descrip	otion	Fi	eld Screeni	ng			Petrole	eum Hydro	carbons			
				OFI		Vol	atile			Extractable	9		Inorganic
Sample ID	Depth (ft)	Sample Date	ପ୍ର ଅଧି Salatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFl	(Benzene (mg/kg)	ය කී සි	ട്ട അ Gasoline Range Organics (GRO)	ച്ച പ്പ് Diesel Range Organics (DRO) ജ	ട്ട ് Motor Oil Range Organics (MRO) ജ	(gRO + DRO)	3 ജ Total Petroleum Hydrocarbons (TPH)	(mg/kg)
BH21-04	6	6/30/2021	1	—	4,620	—	—	_	_	—	—	_	_
BH21-04	9	6/30/2021	1	_	6,410	_	_	_	_	_	_	_	_
BH21-04	11	6/30/2021	1	_	6,386	_	_	_	_	_	_	_	_
BH21-04	12	6/30/2021	1	_	6,085	_	_	_	_	_	_	_	_
BH21-04	13	6/30/2021	1	_	6,726	_	_	_	_	_	_	_	_
BH21-04	14	6/30/2021	1	_	6,560	_	_	_	_	_	_	_	_
BH21-04	15	6/30/2021	2	_	4,698	ND	ND	ND	ND	ND	ND	ND	6,700.0
BH21-05	0.5	6/23/2021	_	_	24	ND	ND	ND	ND	ND	ND	ND	ND
BH21-06	0.5	6/23/2021	_	_	71	ND	ND	ND	ND	ND	ND	ND	ND
BH21-07	0.5	6/23/2021	_	_	2,803	_	_	_	_	_	_	_	_
BH21-08	0.5	6/23/2021	_	_	28	ND	ND	ND	ND	ND	ND	ND	ND
BH21-09	0.5	6/23/2021	_	68	250	ND	ND	ND	ND	ND	ND	ND	120.0
BH21-10	0.5	6/23/2021	_	_	568	_	_	_	_	_	_	_	_
BH21-11	0.5	6/23/2021	_	_	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH21-12	0.5	6/23/2021	_	_	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH21-13	0.5	6/23/2021	_		138	ND	ND	ND	ND	ND	ND	ND	ND
BH21-14	0.5	6/23/2021	_	_	282	ND	ND	ND	ND	ND	ND	ND	330.0
BH22-01	0	11/3/2022	0	21	228	ND	ND	ND	ND	ND	ND	ND	ND
BH22-01	2	11/3/2022	0	_	135	ND	ND	ND	ND	ND	ND	ND	ND
BH22-02	0	11/3/2022	0	48	342	ND	ND	ND	ND	ND	ND	ND	ND
BH22-02	2	11/3/2022	0	_	174	ND	ND	ND	ND	ND	ND	ND	ND
BH22-03	0	11/3/2022	0	55	205	ND	ND	ND	ND	ND	ND	ND	ND



	Table 2. Initial Characterization Sample/Field Screen and Laboratory Results - Depth to Groundwater >100 feet bgs													
	Sample Descri _l	ption	Fi	eld Screeni	ng			Petrole	eum Hydro	carbons	rbons			
				OFI		Vol	atile			Extractable	9		Inorganic	
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroF	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride	
			(ppm)	(ppm)	(+/-)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BH22-03	2	11/3/2022	0		69	ND	ND	ND	ND	ND	ND	ND	ND	
BH22-04	0	11/3/2022	0	65	310	ND	ND	ND	ND	ND	ND	ND	ND	
BH22-04	2	11/3/2022	0	_	212	ND	ND	ND	ND	ND	ND	ND	130.0	
BH22-05	0	11/3/2022	0	64	477	ND	ND	ND	ND	ND	ND	ND	ND	
BH22-05	2	11/3/2022	0	_	255	ND	ND	ND	ND	ND	ND	ND	ND	
BH22-06	0	11/3/2022	0	74	380	ND	ND	ND	ND	ND	ND	ND	ND	
BH22-06	2	11/3/2022	0	_	174	ND	ND	ND	ND	ND	ND	ND	ND	
BH22-07	0	11/3/2022	0	164	7,426	ND	ND	ND	ND	ND	ND	ND	9,000.0	
BH22-07	2	11/3/2022	0	24	7,995	ND	ND	ND	ND	ND	ND	ND	7,000.0	
BH22-07	4	11/3/2022	0	50	7,925	ND	ND	ND	14	ND	14	14	6,600.0	
BH22-08	0	11/3/2022	0	124	8,455	ND	ND	ND	ND	ND	ND	ND	7,100.0	
BH22-08	2	11/3/2022	0	40	8,790	ND	ND	ND	ND	ND	ND	ND	5,600.0	
BH22-08	4	11/3/2022	0	25	4,550	ND	ND	ND	41	110	41	151	7,300.0	

[&]quot;ND" Not Detected at the Reporting Limit

Bold and Shaded indicates exceedance outside of regulator criteria (Off-site)



[&]quot;-" indicates not analyzed/assessed

Client Name: Devon Energy Production Company

Site Name: Helios 6 Fed Com 1/Hackberry 6 Federal 1 Wellpad NMOCD Tracking #: nAPP2116940090, nAPP2219226827

Project #: 22E-02537

Lab Report(s): 2301225, 2301270, 2301321, 2301461, 2301574, 2301376, 2301522, 2301870, 2301754, 2301764, 2301711, 2301631

	T	able 3. Confirmat	ory Sampl	e Field Scr	reen and L	aboratory.	Results -	Depth to (Groundwa	ter >100 f	eet bgs		
S	Sample Descrip	otion	Fic	eld Screeni	ng			Petrole	um Hydro	carbons			
			ds			Vola	atile			Extractable			Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene (mg/kg)	3 % 87 (30 (30 (30 (30 (30 (30 (30 (30 (30 (30	(GRO)	B Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	ਤ ਨੂੰ ਨਿਸੇ Chloride Concentration ਲਿ
WS23-01	0-4	01/04/2023	-	67	318	ND	ND	ND	ND	ND	ND	ND	ND
WS23-02	0-4	01/04/2023	-	191	551	ND	ND	ND	9.6	ND	9.6	9.6	110
WS23-03	0-4	01/04/2023	-	206	654	ND	ND	ND	ND	ND	ND	ND	140
WS23-14	0-4	01/06/2023	-	48	390	ND	ND	ND	ND	ND	ND	ND	320
WS23-27	0-4	01/10/2023	0	12	210	ND	ND	ND	ND	ND	ND	ND	120
WS23-29	0-4	01/10/2023	0	49	220	ND	ND	ND	ND	ND	ND	ND	140
WS23-34	0-4	01/12/2023	0	84	378	ND	ND	ND	ND	ND	ND	ND	540
WS23-39	0-4	01/13/2023	0	59	218	ND	ND	ND	ND	ND	ND	ND	100
WS23-40	0-4	01/13/2023	0	28	90	ND	ND	ND	ND	ND	ND	ND	ND
WS23-41	0-4	01/13/2023	0	19	170	ND	ND	ND	ND	ND	ND	ND	79
WS23-42	0-4	01/13/2023	0	26	488	ND	ND	ND	ND	ND	ND	ND	170
WS23-43	0-4	01/20/2023	1	57 33	600 578	ND	ND ND	ND	ND ND	ND ND	ND	ND ND	ND
WS23-44	0-4	01/20/2023	1	33 133	340	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
WS23-45	0-4	01/20/2023	0	60	7,720	ND	ND	ND	ND	ND	ND	ND ND	7800
BS23-01	4	01/09/2023 01/09/2023	0	80	7,720	ND	ND	ND	ND	ND	ND	ND ND	8100
BS23-02 BS23-03	4	01/10/2023	0	35	200	ND	ND	ND	ND	ND	ND	ND	150
BS23-04	4	01/10/2023	0	120	668	ND	ND	ND	13	ND	13	13	790
BS23-04 BS23-05	4	01/10/2023	0	121	1,753	ND	ND	ND	24	ND	24	24	1700
BS23-05	4	01/11/2023	0	61	9,902	ND	ND	ND	ND	ND	ND	ND	7100
BS23-07	4	01/11/2023	0	24	3,426	ND	ND	ND	ND	ND	ND	ND	1900
BS23-08	4	01/11/2023	0	110	4,103	ND	ND	ND	11	ND	11	11	4200
BS23-09	4	01/11/2023	0	171	5,400	ND	ND	ND	9.6	ND	9.6	9.6	3000
BS23-10	4	01/11/2023	0	185	7,711	ND	ND	ND	15	ND	15	15	6100
BS23-11	4	01/11/2023	0	98	6,812	ND	ND	ND	ND	ND	ND	ND	7800
BS23-12	4	01/11/2023	0	188	8,052	ND	ND	ND	ND	ND	ND	ND	7000
BS23-13	4	01/11/2023	0	159	6,350	ND	ND	ND	ND	ND	ND	ND	5600
BS23-14	4	01/11/2023	0	188	8,052	ND	ND	ND	ND	ND	ND	ND	6500
BS23-15	4	01/11/2023	0	187	10,053	ND	ND	ND	ND	ND	ND	ND	12000
BS23-16	4	01/11/2023	0	183	9,150	ND	ND	ND	ND	ND	ND	ND	8300
BS23-17	4	01/11/2023	0	97	5,042	ND	ND	ND	ND	ND	ND	ND	4600
BS23-18	4	01/11/2023	0	150	7,661	ND	ND	ND	ND	ND	ND	ND	8500
BS23-19	4	01/11/2023	0	178	6,730	ND	ND	ND	26	67	26	93	6700
BS23-20	4	01/11/2023	0	323	7,837	ND	ND ND	ND ND	31	71 ND	31	102	9100
BS23-21	4	01/11/2023 01/11/2023	0	113 143	6,562 9,055	ND ND	ND ND	ND ND	11 ND	ND ND	11 ND	11 ND	9200 6800
BS23-22 BS23-23	4	01/11/2023	0	190	10,039	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	9000
BS23-23 BS23-24	4	01/11/2023	0	165	8,241	ND	ND	ND	ND	ND	ND	ND ND	7400
BS23-24 BS23-25	4	01/11/2023	0	246	9,550	ND	ND	ND	28	51	28	79	10000
BS23-26	4	01/11/2023	0	741	3,607	ND	ND	ND	73	100	73	173	3500
BS23-27	4	01/13/2023	0	675	5,880	ND	ND	ND	64	90	64	154	6000
BS23-28	4	01/16/2023	0	664	2,975	ND	ND	ND	220	260	220	480	3000
BS23-29	4	01/16/2023	0	819	3,120	ND	ND	ND	170	210	170	380	2700
BS23-30	4	01/16/2023	0	1,241	3,320	ND	ND	ND	310	520	310	830	3000
BS23-31	4	01/16/2023	0	149	2,605	ND	ND	ND	12	ND	12	12	2700
BS23-32	4	01/16/2023	0	183	2,845	ND	ND	ND	25	56	25	81	3600
BS23-33	4	01/16/2023	0	159	955	ND	ND	ND	30	48	30	78	2200
BS23-34	4	01/16/2023	0	112	1,205	ND	ND	ND	26	ND	26	26	1200
BS23-35	4	01/16/2023	0	54	640	ND	ND	ND	13	ND	13	13	730
BS23-36	4	01/16/2023	0	38	1,443	ND	ND	ND	ND	ND	ND	ND	1200
BS23-37	4	01/16/2023	0	101	835	ND	ND	ND	ND	ND	ND	ND	490
BS23-38	4	01/16/2023	0	12	1,770	ND	ND	ND	ND	ND	ND	ND	1200



	_			F4	2.070	ND	ND	NB	NB	NB	ND	ND	2400
BS23-39	4	01/16/2023	0	51	2,870	ND	ND	ND	ND	ND	ND	ND	2100
BS23-40	4	01/16/2023	0	102	1,480	ND	ND	ND	ND	ND	ND	ND	1600
BS23-41	4	01/16/2023	0	40	1,090	ND	ND	ND	ND	ND	ND	ND	1200
BS23-42	4	01/16/2023	0	19	433	ND	ND	ND	ND	ND	ND	ND	230
BS23-43	4	01/16/2023	0	52	988	ND	ND	ND	ND	ND	ND	ND	650
BS23-44	4	01/16/2023	0	56	1,463	ND	ND	ND	ND	ND	ND	ND	1600
BS23-45	4	01/16/2023	0	49	2,393	ND	ND	ND	ND	ND	ND	ND	2200
BS23-46	4	01/16/2023	0	81	1,190	ND	ND	ND	9.6	ND	9.6	9.6	910
BS23-47	4	01/16/2023	0	26	543	ND	ND	ND	ND	ND	ND	ND	510
BS23-48	4	01/17/2023	0	248	1,255	ND	ND	ND	33	64	33	97	1100
BS23-49	4	01/17/2023	0	378	1,490	ND	ND	ND	65	100	65	165	1400
			0	8	,		ND	ND	52				
BS23-50	4	01/17/2023	-		1,430	ND				96	52	148	1600
BS23-51	4	01/17/2023	0	316	1,662	ND	ND	ND	39	85	39	124	1600
BS23-52	4	01/17/2023	0	482	3,633	ND	ND	ND	76	160	76	236	3100
BS23-53	4	01/17/2023	0	479	3,012	ND	ND	ND	88	160	88	248	2600
BS23-54	4	01/17/2023	0	154	2,440	ND	ND	ND	32	ND	32	32	2200
BS23-55	4	01/17/2023	0	115	1.445	ND	ND	ND	ND	ND	ND	ND	1100
					, -								
BS23-56	4	01/17/2023	0	575	4,043	ND	ND	ND	180	ND	180	180	3700
BS23-57	4	01/17/2023	0	990	8,762	ND	ND	ND	150	ND	150	150	7100
BS23-58	4	01/18/2023	1	678	4,498	ND	ND	ND	180	340	180	520	9700
BS23-59	4	01/18/2023	1	769	2,385	ND	ND	ND	170	240	170	410	4500
BS23-60	4	01/18/2023	1	594	1,132	ND	ND	ND	150	240	150	390	2200
BS23-61	4	01/18/2023	2	325	5,230	ND	ND	ND	70	100	70	170	8100
			1	745	3,230	ND	ND	ND	310	460	310	770	4200
BS23-62	4	01/18/2023		_	,								
BS23-63	4	01/18/2023	1	919	8,920	ND	ND	ND	190	300	190	490	8700
BS23-64	4	01/18/2023	1	273	12,598	ND	ND	ND	56	81	56	137	17000
BS23-65	4	01/18/2023	1	289	9,993	ND	ND	ND	120	150	120	270	12000
BS23-66	4	01/18/2023	1	714	7,055	ND	ND	ND	160	220	160	380	6800
BS23-67	4	01/18/2023	1	926	6,900	ND	ND	ND	390	670	390	1060	5900
BS23-68	4	01/18/2023	1	1,054	5,595	ND	ND	ND	330	590	330	920	5200
			1	726	5,560	ND	ND	ND	390	700	390	1090	4900
BS23-69	4	01/18/2023											
BS23-70	4	01/18/2023	1	1,145	3,495	ND	ND	ND	540	890	540	1430	3300
BS23-71	4	01/18/2023	1	1,180	2,940	ND	ND	ND	390	690	390	1080	2400
BS23-72	4	01/18/2023	1	1,157	2,620	ND	ND	ND	450	570	450	1020	2700
BS23-73	4	01/18/2023	1	688	7,813	ND	ND	ND	150	240	150	390	7800
BS23-74	4	01/18/2023	1	511	10,880	ND	ND	ND	160	220	160	380	11000
BS23-75	4	01/18/2023	1	474	8,605	ND	ND	ND	66	140	66	206	7700
			2			ND	ND ND	ND	49	79	49	128	9800
BS23-76	4	01/19/2023		267	5,753								
BS23-77	4	01/19/2023	2	249	5,008	ND	ND	ND	27	ND	27	27	8200
BS23-78	4	01/19/2023	2	581	3,495	ND	ND	ND	96	140	96	236	6000
BS23-79	4	01/19/2023	2	257	3,068	ND	ND	ND	76	120	76	196	4200
BS23-80	4	01/19/2023	1	1,008	1,788	ND	ND	ND	380	600	380	980	2400
BS23-81	4	01/19/2023	2	800	1,690	ND	ND	ND	170	320	270	590	2100
BS23-81	4		1	880	1,613	ND	ND	ND	200	220	200	420	1900
		01/19/2023											
BS23-83	4	01/19/2023	1	485	1,108	ND	ND	ND	310	370	310	680	1300
BS23-84	4	01/19/2023	1	1,120	1,930	ND	ND	ND	540	890	540	1430	2400
BS23-85	4	01/19/2023	1	660	2,073	ND	ND	ND	140	ND	140	140	3200
BS23-86	4	01/19/2023	1	231	1,498	ND	ND	ND	21	ND	21	21	1400
BS23-87	4	01/19/2023	1	390	1,573	ND	ND	ND	28	ND	28	28	1400
BS23-88	4	01/19/2023	1	152	1,638	ND	ND	ND	15	ND	15	15	3100
BS23-89	4	01/19/2023	1	104	3,380	ND	ND	ND	10	ND	10	10	5200
BS23-90	4	01/19/2023	1	102	1,018	ND	ND	ND	ND	ND	ND	ND	1000
BS23-91	4	01/19/2023	2	63	1,505	ND	ND	ND	ND	ND	ND	ND	2400
BS23-92	4	01/19/2023	1	358	2,498	ND	ND	ND	44	60	44	104	4300
BS23-93	4	01/19/2023	2	120	2,690	ND	ND	ND	13	ND	13	13	4900
BS23-94	4	01/19/2023	1	358	1,978	ND	ND	ND	80	130	80	210	2600
BS23-95	4	01/19/2023	1	664	1,505	ND	ND	ND	33	ND	33	33	2100
			1	868	2,100	ND	ND	ND	470	610	470	1080	2700
BS23-96	4	01/19/2023											
BS23-97	4	01/19/2023	1	319	1,833	ND	ND	ND	63	94	63	157	2200
BS23-98	4	01/19/2023	1	421	1,625	ND	ND	ND	39	69	39	108	2300
BS23-99	4	01/19/2023	1	352	1,755	ND	ND	ND	39	80	39	119	2300
BS23-100	4	01/20/2023	2	92	2,258	ND	ND	ND	ND	ND	ND	ND	2800
BS23-101	4	01/20/2023	1	81	1,283	ND	ND	ND	ND	ND	ND	ND	1700
BS23-102	4	01/20/2023	1	268	1,458	ND	ND	ND	20	ND	20	20	2000
					,								
BS23-103	4	01/20/2023	1	440	1,493	ND	ND	ND	39	64	39	103	1800
BS23-104	4	01/20/2023	1	346	1,680	ND	ND	ND	43	63	43	106	2300
					2 225						100		
BS23-105	4	01/20/2023	1	538	3,385	ND	ND	ND	100	180	100	280	2300
BS23-105 BS23-106	4	01/20/2023 01/20/2023	1	538 569	3,385 1,750	ND ND	ND ND	ND ND	100 76	180 130	76	280	2300



BS23-107	4	01/20/2023	1	339	2,575	ND	ND	ND	40	62	40	102	2300
BS23-108	4	01/20/2023	1	251	1,600	ND	ND	ND	38	63	38	101	2200
BS23-109	4	01/20/2023	2	202	2,965	ND	ND	ND	25	ND	25	25	2900
BS23-110	4	01/20/2023	1	197	1,330	ND	1600						
BS23-111	4	01/20/2023	1	210	1,025	ND	ND	ND	21	ND	21	21	960

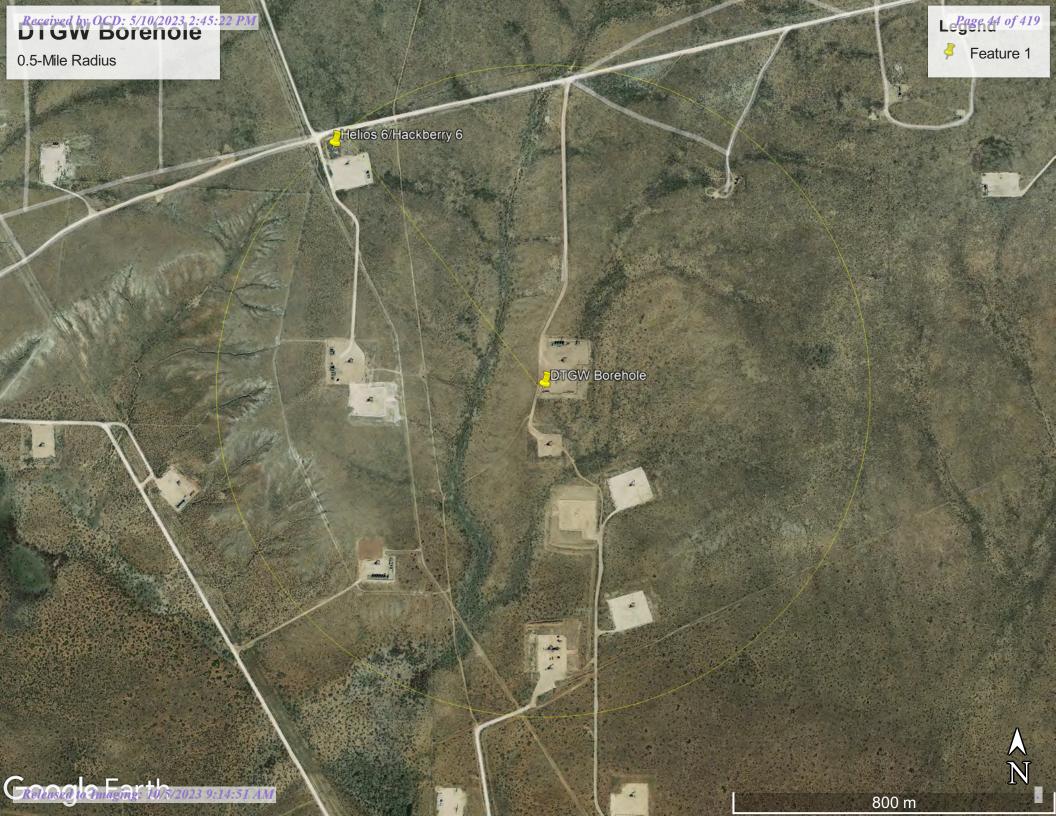
[&]quot;ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed

Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)



ATTACHMENT 4







- Z	OSE POD N	O. (WELL N	<u></u>	gantakini aya sameri y	WELL TAG ID NO.	And the second second	5.1.10±3dE(5.22)	OSE FILE NO	(S).	arrendo da Lacida Compania de la			
LOCATION	WELL OWN Devon En	NER NAME(S	3)				-	PHONE (OPT	IONAL)	7. P. P. L.			
1 111	6488 7 Ri	vers Hwy	G ADDRESS					CITY Artesia	NM 88210	STATE	ZIP		
L'AND WEI	WELL		D VIITUDE	EGREES 32	MINUTES 40	SECONE 56.79		* ACCURAC	Y REQUIRED: ONE TEN	ITH OF A SECOND	Pass install		
GENERAL	(FROM G	J LC	DNGIT'UDE	103	54	4.32	W	* DATUM RE	QUIRED: WGS 84				
1.6	DESCRIPTI	ION RELATI	NG WELL LOCATION T	O STREET ADDI	RESS AND COMMON	LANDMAI	KS – PLS	S (SECTION, TO	OWNSHJIP, RANGE) WI	IERE AVAILABLE	esjan kazaranovak		
が見る	LICENSE NO		NAME OF LICENSEI	DRILLER	Jason Maley		Helmise II. (edisjone		NAME OF WELL DR	ILLING COMPANY ion Resources, Inc	ерэнкай изпецияла. -		
	DRILLING S 12/1		DRILLING ENDED 12/13/22	DEPTH OF CO	MPLETED WELL (FT 105) [LE DEPTH (FT)		ST ENCOUNTERED (FT)		
, S	COMPLETE	D WELL IS:	ARTESIAN *add	DRY HOU	E SHALLOV	W (UNCON	INED)		WATER LEVEL PLETED WELL	DATE STATIC	MEASURED		
INFORMATION	DRILLING F		☑ AIR	MUD		ES – SPECIF	Υ:						
FOR	DRULLING METHOD: PROTARY HAMMER CABLE TOOL OTHER					R – SPECIF	Y:		CHECK INSTAL	HERE IF PITLESS ADA LED	PTER IS		
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RIAL	FROM	TO	DIAM. (inches)	*(if using Cen	RANGE BY tralizers for Artesia			spacing below)	AMOUNT (cubic feet)	METHO: PLACEM			
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				***************************************				,					
FOR	OSE INTER	NAL USE					· · · · · · · · · · · · · · · · · · ·	WR-20	WELL RECORD &	LOG (Version 09/22			
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1,00	ATION						V	WELL TAG ID NO. PAGE 1 OF 2					

	DEPTH (feet bgl) TO	THICKNESS (feet)	INCLUDE WATI	ID TYPE OF MATERIAL ER-BEARING CAVITIES optemental sheets to fully	OR FRA	CTURE ZONE	S	WAT BEARI (YES/	NG?	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
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	30	40	10		fine red sand				Y	Ø.	, , , , , , , , , , , , , , , , , , , ,
T.A	40	50	10		red clay				Y	Ó	····
	50	60	10		pink sand and calich	ic			Y	(S)	
	60	70	10		red clay moist				Y	(1)	· · · · · · · · · · · · · · · · · · ·
	70	80	10		pink sandy calichic	;			Y	W	
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4 HYDROGEOLOGICLOG OF WELL						*****			Y	N	
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	PUMI		RLIFT [BAILER OT	THER SPECIFY:				L YIELD		
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RIGSUPERVISICA											
S. TES	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:										
	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND										
RE	CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:										
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FOR	OSE INTERI	NAL USE					WR-20 WE	LL REC	ORD & LO	OG (Ver	sion 09/22/2022)
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LOC	CATION					WELL	TAG ID NO.				PAGE 2 OF 2



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	ENERAL / WELL OWNERSHIP:		
State I	Engineer Well Number:		
WOLLC	Phone No ·	1	
Mailin	ng address: 6488 7 Rivers Hwy		
City:	Artesia State: New Mexico	Zip code:	88210
II. W	ELL PLUGGING INFORMATION:		
1)	Name of well drilling company that plugged well: Vision Resources, Inc		
2)	New Mexico Well Driller License No.: WD 1833 Expiration	n Date: 12-	-31-23
3)	Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Jason Maley		
4)	Date well plugging began: 12-16-22 Date well plugging concluded: 12	2-16-22	
5)	GPS Well Location: Latitude: 32 deg, 40 min, 56.79 s Longitude: 103 deg, 54 min, 4.32 s	ec ec _F WGS 84	
6)	Depth of well confirmed at initiation of plugging as: ft below ground level (bgl by the following manner: tape		
7)	Static water level measured at initiation of plugging: ft bgl		
8)	Date well plugging plan of operations was approved by the State Engineer:		
9)	Were all plugging activities consistent with an approved plugging plan?yesI differences between the approved plugging plan and the well as it was plugged (attach additional contents).	f not, plea ional pages a	ase describe as needed):
		*	

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
-	Barold Hale Plug	155	154,21	Note	process pagget, occ.)
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cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

I, Jason Maley

, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Signature of Well Driller

Date



Hackberry 6 Federal 1 Well Pad 800 Feet (



December 2, 2022

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

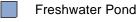
Freshwater Emergent Wetland

Lake

Freshwater Forested/Shrub Wetland



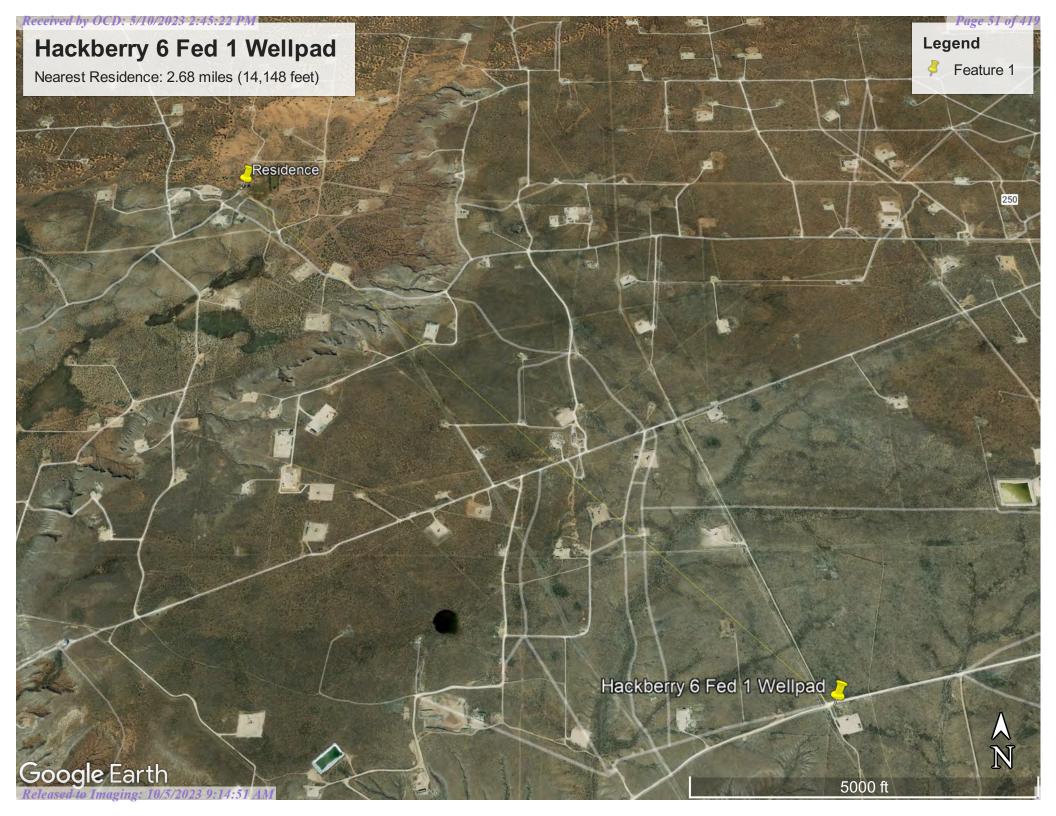
Other





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







7, Hackberry 6 Fed 1 Wellpad to Wetland



August 12, 2022

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Pond

vveuand

Freshwater Forested/Shrub Wetland

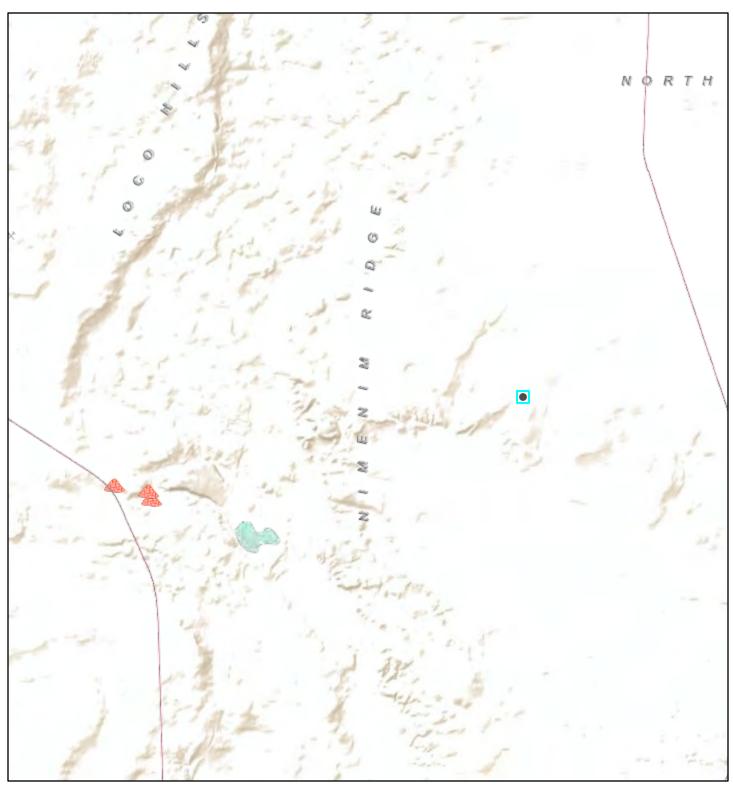
Riverine

Lake

Other

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

Active Mines in New Mexico

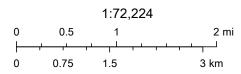


12/2/2022, 8:27:51 AM

Registered Mines

Aggregate, Stone etc.

Potash



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

Received by OCD: 5/10/2023 2:45:22 PM National Flood Hazard Layer FIRMette





SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT Without Base Flood Elevation (BFE) With BFE or Depth Zone AE, AO, AH, VE, AR SPECIAL FLOOD HAZARD AREAS Regulatory Floodway 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X **Future Conditions 1% Annual** Chance Flood Hazard Zone X Area with Reduced Flood Risk due to Levee. See Notes. Zone X OTHER AREAS OF Area with Flood Risk due to Levee Zone D FLOOD HAZARD NO SCREEN Area of Minimal Flood Hazard Zone X Effective LOMRs OTHER AREAS Area of Undetermined Flood Hazard Zone D - - - Channel, Culvert, or Storm Sewer **GENERAL** STRUCTURES | LILLIL Levee, Dike, or Floodwall 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation **Coastal Transect** Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary **Coastal Transect Baseline** OTHER **Profile Baseline FEATURES** Hydrographic Feature Digital Data Available No Digital Data Available

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

Unmapped

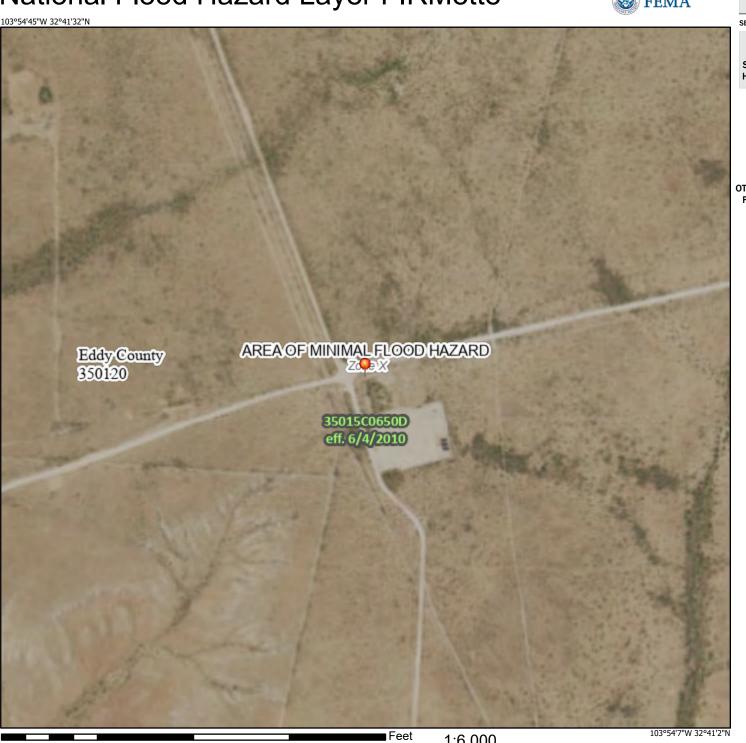
an authoritative property location.

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

MAP PANELS

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/12/2022 at 5:54 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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



2.000

Map Unit Description: Simona gravelly fine sandy loam, 0 to 3 percent slopes---Eddy Area, New Mexico

Eddy Area, New Mexico

SG—Simona gravelly fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w5w Elevation: 2,750 to 5,000 feet

Mean annual precipitation: 8 to 16 inches

Mean annual air temperature: 57 to 70 degrees F

Frost-free period: 180 to 230 days

Farmland classification: Not prime farmland

Map Unit Composition

Simona and similar soils: 95 percent *Minor components*: 5 percent

Estimates are based on observations, descriptions, and transects of

the mapunit.

Description of Simona

Setting

Landform: Plains, alluvial fans

Landform position (three-dimensional): Rise

Down-slope shape: Convex, linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 19 inches: gravelly fine sandy loam

H2 - 19 to 23 inches: indurated

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 7 to 20 inches to petrocalcic

Drainage class: Well drained Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low

to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0

mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

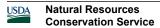
Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Ecological site: R070BD002NM - Shallow Sandy



Map Unit Description: Simona gravelly fine sandy loam, 0 to 3 percent slopes---Eddy Area, New Mexico

Hydric soil rating: No

Minor Components

Simona

Percent of map unit: 4 percent

Ecological site: R070BD002NM - Shallow Sandy

Hydric soil rating: No

Playa

Percent of map unit: 1 percent

Landform: Playas

Landform position (three-dimensional): Talf Down-slope shape: Concave, convex Across-slope shape: Concave, linear

Ecological site: R070BC017NM - Bottomland

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Eddy Area, New Mexico Survey Area Data: Version 18, Sep 8, 2022



Ecological site R070BD002NM Shallow Sandy

Accessed: 12/02/2022

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Associated sites

R070BD004NM	Sandy	Ì
	Sandy sites often occur in association or in a complex with Shallow Sandy Sites.	

Similar sites

R070BD004NM	Sandy
	Sandy ecological sites are similar to Shallow Sandy sites in species composition and Transition pathways.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occures on plains, alluvial fans, uplands, or fan piedmonts. The parent material consists of mixed loamy alluvium or eolian material derived from igneous and sedimentory bedrock. The petrocalcic layer is at a depth of 10 to 25 inches and undulating.

Slopes are nearly level to undulating, usually less than 9 percent. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain(2) Fan piedmont(3) Alluvial fan
Elevation	2,842-4,500 ft
Slope	1–9%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common.

Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity – short duration thunderstorms.

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.

The average frost-free season is from 207 to 220 days. The last killing frost is in late March or early April, and the first killing frost is in late October or early November.

Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of the site. The vegetation of this site can take advantage of the moisture and the time it falls. Because of the soil profile, little moisture can be stored in the soil for any length of time. Moisture is readily available to the plants from the time it falls. Strong winds from the southwest blow from January through June which rapidly dries out the soil profile during a critical period for plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

Table 3. Representative climatic features

Frost-free period (average)	221 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced from water from wetlands or streams.

Soil features

Soils are very shallow to shallow, less than 20 inches in depth. Surface and subsurface textures are gravelly loamy sand, gravelly fine sandy loam or fine sandy loam.

An indurated calache layer occurs at depths of 6 to 25 inches and is at an average of 15 inches from the surface. Underlying material textures are very gravelly fine sandy loam, very gravelly sandy loam, gravelly fine sandy loam. Gravels are calcium carbonate concretions, calcium carbonate content ranges from 30 to 65 percent.

The indurated caliche layer typically holds water up in the profile for short periods within the root zone of plants. These soils will blow if left unprotected by vegetation.

Minimum and maximum values listed below represent the characteristic soils for this site.

Characteristic soils are: Simona

Jerag

Table 4. Representative soil features

Surface texture	(1) Fine sandy loam(2) Loamy fine sand(3) Gravelly fine sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained to moderately well drained
Permeability class	Moderately slow to moderate

Soil depth	7–24 in
Surface fragment cover <=3"	5–25%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	1–2 in
Calcium carbonate equivalent (0-40in)	5–15%
Electrical conductivity (0-40in)	0–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	7.4–8
Subsurface fragment volume <=3" (Depth not specified)	5–25%
Subsurface fragment volume >3" (Depth not specified)	0%

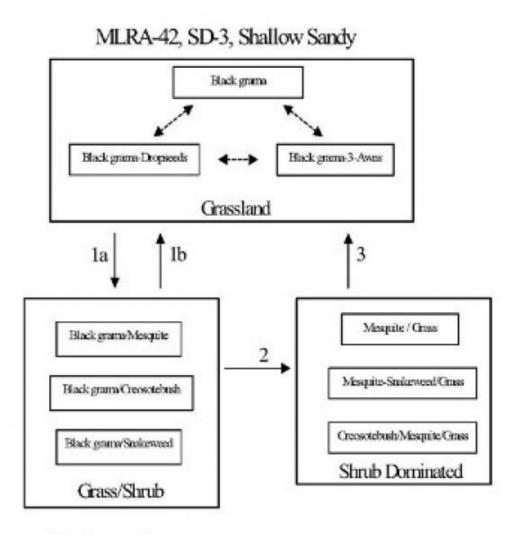
Ecological dynamics

Overview

The Shallow Sandy site occurs on upland plains, and tops of low ridges and mesas, associated with Sandy, Loamy Sand, and Shallow sites. Coarse to moderately coarse soil surface textures, shallow depth (<20 inches) to an indurated caliche layer (petrocalcic horizon), and an overwhelming dominance by black grama help to distinguish this site. The historic plant community of the Shallow Sandy site is a black grama dominated grassland sparsely dotted with shrubs. Shrubs, especially mesquite and creosotebush can increase or colonize due to the dispersal of shrub seeds by livestock or wildlife. This increase in mesquite and colonization of creosotebush may be enhanced by proximity to areas with existing high shrub densities. Fire suppression, and the loss of grass cover due to overgrazing or drought may facilitate the increase and encroachment of shrubs. Persistent loss of grass cover, competition for resources by shrubs, and periods of climate with increased winter precipitation and dry summers, may initiate the transition to a shrub-dominated state.

State and transition model

Plant Communities and Transitional Pathways (diagram)



Seed dispersal, drought, overgrazing, fire suppression.

- Prescribed fire, brush control, prescribed grazing.
- 2. Persistent loss of grass cover, resource competition, increased winter precipitation.
- Brush control, range seeding, prescribed grazing.

State 1 Historic Climax Plant Community

Community 1.1 Historic Climax Plant Community

Grassland: This site responds well to management and is resistant to state change, due to the shallow depth to petrocalcic horizon and sandy surface textures. The sandy surface textures allow rapid water infiltration and the petrocalcic horizon helps to keep water perched and available to shallow rooted grasses. Black grama is the dominant species in the historic plant community, averaging 50 to 60 percent of the total production for this site. Bush muhly, blue grama, and dropseeds are present as sub-dominants. Typically, yucca, javalinabush, range ratany, prickly pear, and mesquite are sparsely dotted across the landscape. Leatherweed croton, cutleaf

happlopappus, wooly groundsel, and threadleaf groundsel are common forbs. Continuous heavy grazing or extended periods of drought will cause a loss of grass cover characterized by a decrease in black grama, bush muhly, blue and sideoats grama, plains bristlegrass, and Arizona cottontop. Dropseeds and or threeawns may increase and become sub-dominant to black grama. Continued loss of grass cover in conjunction with dispersal of shrub seeds and fire suppression is believed to cause the transition to a state with increased amounts of shrubs (Grass/Shrub state). Diagnosis: Black grama is the dominant grass species. Grass cover uniformly distributed. Shrubs are a minor component averaging only two to five percent canopy cover. Litter cover is high (40-50 percent of area), and litter movement is limited to smaller size class litter and short distances (<. 5m). Other grasses that could appear on this site would include: six-weeks grama, fluffgrass, false-buffalograss, hairy grama, little bluestem, bristle panicum, cane bluestem, Indian ricegrass, tridens spp., and red lovegrass. Other woody plants include: pricklypear, cholla, fourwing saltbush, catclaw mimosa, winterfat, American tarbush and mesquite. Other forbs include: globemallow, verbena, desert holly, senna, plains blackfoot, trailing fleabane, fiddleneck, deerstongue, wooly Indianwheat, and locoweed.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	
Grass/Grasslike	474	652	830
Forb	78	107	136
Shrub/Vine	48	66	84
Total	600	825	1050

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	30-35%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	40-50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	15-25%

Figure 5. Plant community growth curve (percent production by month). NM2802, R042XC002NM-Shallow Sandy-HCPC. SD-3 Shallow Sandy - Warm season plant community.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

State 2 Grass/Shrub

Community 2.1 Grass/Shrub

Grass/Shrub: This state is characterized by the notable presence of shrubs, especially mesquite, broom snakeweed, and/or creosotebush, however grasses remain as the dominant species. Black grama is the dominant

grass species. Threeawns and or dropseeds are sub-dominant. The susceptibility of the Shallow Sandy site to shrub encroachment may be higher when located adjacent to other sites with high densities of mesquite or creosotebush. Retrogression within this site is characterized by decreases in grass cover and increasing densities of shrubs. Diagnosis: Black grama remains as the dominant grass species. Grass cover varies in response to the amount of shrub increase, ranging from uniform to patchy. Shrubs are found at increased densities relative to the grassland state, especially mesquite, creosotebush, or broom snakeweed. Transition to Grass/Shrub (1a) Historically fire may have kept mesquite and other shrubs in check by completely killing some species and disrupting seed production cycles and suppressing the establishment of shrub seedlings in others. Fire suppression combined with seed dispersal by livestock and wildlife is believed to be the factors responsible for the establishment and increase in shrubs.1, 3 Loss of grass cover due to overgrazing, prolonged periods of drought, or their combination, reduces fire fuel loads and increases the susceptibility of the site to shrub establishment. Key indicators of approach to transition: Increase in the relative abundance of dropseeds and threeawns Presence of shrub seedlings Loss of organic matter—evidenced by an increase in physical soil crusts 8 Transition back to Grassland (1b) Brush control is necessary to initiate the transition back to the grassland state. If adequate fuel loads remain, possibly the reintroduction of fire as a management tool will assist in the transition back, however, mixed results have been observed concerning the effects of fire on black grama grasslands.6 Prescribed grazing will help ensure adequate rest following brush control and will assist in the establishment and maintenance of grass cover capable of sustaining fire.

State 3 Shrub Dominated

Community 3.1 Shrub Dominated

Shrub-Dominated: Across the range of soil types included in the Shallow Sandy site, mesquite is typically the dominant shrub, but it does occur as a co-dominant or sub-dominant species with creosotebush or broom snakeweed. Mesquite tends to dominate when the Shallow Sandy site occurs as part of a complex or in association with Sandy or Loamy Sand sites. Creosotebush tends to dominate on Shallow Sandy sites that occur as part of, or adjacent to Shallow Sites. Broom snakeweed increases in response to heavy grazing, but tends to cycle in and out depending on timing of rainfall. However, once the site is dominated by shrubs and snakeweed becomes well established, it tends to remain as a major component in the shrub dominated state. Diagnosis: Mesquite, creosotebush, or snakeweed cover is high, exceeding that of grasses. Grass cover is patchy with large connected bare areas present. Black grama, threeawns, or dropseeds may be the dominant grass. Evidence of accelerated wind erosion in the form of pedestalling of plants, and soil deposition around shrub bases may be common. Transition to Shrub-Dominated (2) Persistent loss of grass cover and the resulting increased competition between shrubs and remaining grasses for dwindling resources (especially soil moisture) may drive this transition.5 Additionally periods of increased winter precipitation may facilitate periodic episodes of shrub expansion and establishment. 4 Key indicators of approach to transition: Increase in size and frequency of bare patches. Loss of grass cover in shrub interspaces. Increased signs of erosion, evidenced by pedestalling of plants, and soil and litter deposition on leeward side of plants. 7 Transition back to Grassland (3) Brush control is necessary to reduce competition from shrubs and reestablish grasses. Range seeding may be necessary if insufficient grasses remain, The benefits, and costs, will vary depending upon the degree of site degradation, and adequate precipitation following seeding.

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass	/Grasslike				
1	Warm Season			413–495	
	black grama	BOER4	Bouteloua eriopoda	413–495	_
2	Warm Season	•		41–83	
	bush muhly	MUPO2	Muhlenbergia porteri	41–83	_
3	Warm Season			41–83	

	1			<u>i</u>	1
	blue grama	BOGR2	Bouteloua gracilis	41–83	-
4	Warm Season			25–41	
	sideoats grama	BOCU	Bouteloua curtipendula	25–41	ı
5	Warm Season	-	•	41–83	
	spike dropseed	SPCO4	Sporobolus contractus	41–83	ı
	sand dropseed	SPCR	Sporobolus cryptandrus	41–83	ı
	mesa dropseed	SPFL2	Sporobolus flexuosus	41–83	ı
6	Warm Season			17–41	
	threeawn	ARIST	Aristida	17–41	-
7	Warm Season			41–83	
	Arizona cottontop	DICA8	Digitaria californica	41–83	ı
	plains bristlegrass	SEVU2	Setaria vulpiseta	41–83	ı
8	Warm Season			41–83	
	mat sandbur	CELO3	Cenchrus longispinus	41–83	_
	hooded windmill grass	CHCU2	Chloris cucullata	41–83	_
9	Other Perennial Grasses	-		25–41	
	Grass, perennial	2GP	Grass, perennial	25–41	_
Shru	b/Vine				
10	Shrub			8–25	
	javelina bush	COER5	Condalia ericoides	8–25	_
11	Shrub			8–25	
	yucca	YUCCA	Yucca	8–25	_
12	Shrub	•		8–25	
	jointfir	EPHED	Ephedra	8–25	_
	littleleaf ratany	KRER	Krameria erecta	8–25	-
13	Shrub			8–25	
	featherplume	DAFO	Dalea formosa	8–25	-
14	Shrub	•		8–25	
	broom snakeweed	GUSA2	Gutierrezia sarothrae	8–25	_
15	Other Shrubs	•		25–41	
	Shrub (>.5m)	2SHRUB	Shrub (>.5m)	25–41	_
Forb		•			
16	Forb			17–41	
	leatherweed	CRPOP	Croton pottsii var. pottsii	17–41	_
	Goodding's tansyaster	MAPIG2	Machaeranthera pinnatifida ssp. gooddingii var. gooddingii	17–41	-
17	Forb			17–41	
	woolly groundsel	PACA15	Packera cana	17–41	_
	threadleaf ragwort	SEFLF	Senecio flaccidus var. flaccidus	17–41	_
18	Forb	•		8–25	
	whitest evening primrose	OEAL	Oenothera albicaulis	8–25	_
19	Other Forbs	1		8–25	
	Forb (herbaceous, not grass nor grass-like)	2FORB	Forb (herbaceous, not grass nor grass-like)	8–25	-
	-	-	•	-	

Animal community

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, swift fox, black-tailed jackrabbit, spotted ground squirrel, Ord's kangaroo rat, northern grasshopper mouse, coyote, horned lark, meadowlark, lark bunting, scaled quail, morning dove, side-blotched lizard, round-tailed horned lizard, marbled whiptail, prairie rattlesnake and ornate box turtle.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations Soil Series Hydrologic Group Jarag D Simona D

Recreational uses

This site offers recreation for hiking, horseback riding, nature observation and photography, and quail and dove hunting. During years of abundant spring moisture, this site displays a riot of color from wildflowers during May and June. A few summer and fall flowers also occur.

Wood products

The natural potential plant community of this site affords little or no wood products. Where the site has been invaded by mesquite or cholla cactus the roots and stems of these plants provide attractive material for a variety of curiosities, such as lamps and small furniture.

Other products

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. Because of the sandy textures and shallow profile, this site will respond rapidly to management. As this site deteriorates, plants such as black grama, bush muhly, blue and sideoats grama, plains bristlegrass and Arizona cottontop, will decrease and be replaced by plants such as threeawns, mesquite, creosote bush, and broom snakeweed. This also causes a decrease in ground cover, leaving the soil to blow. This site responds best to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month Similarity Index Ac/AUM $100 - 76 \ 2.5 - 3.5$ $75 - 51 \ 3.2 - 4.6$ $50 - 26 \ 4.5 - 7.5$ $25 - 0 \ 7.6 +$

Inventory data references

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

Other references

Literature References:

- 1. Brooks, M.L. and D.A. Pyke. 2001. Invasive plants and fire in the deserts of North America. Pages 1–14 in K.E.M. Galley and T.P. Wilson (eds.). Proceedings of the Invasive Species Workshop: the Role of Fire in the Control and Spread of Invasive Species.
- 2. Hennessy, J.T., R.P. Gibbens, J.M. Tromble, and M. Cardenas. 1983. Water properties of caliche. J. Range Manage. 36: 723-726.
- 3. Humphrey, R.R. 1974. Fire in the deserts and desert grassland of North America. In: Kozlowski, T. T.; Ahlgren, C. E., eds. Fire and ecosystems. New York: Academic Press: 365-400.
- 4. Moir, W.H., and J. A. Ludwig. 1991. Plant succession and changing land features in desert grasslands. P. 15-18. In P.F. Ffolliott and W.T. Swank (eds.) People and the temperate region: a summary of research from the United States Man and the Biosphere Program 1991. U.S. Dept. State, Publ No. 9839, Nat. Tech. Info. Serv., U.S. Dept. Commerce, Springfield, Illinois. 63 p.
- 5. Tiedemann, A. R. and J. O. Klemmedson. 1977. Effect of mesquite trees on vegetation and soils in the desert grassland. J. Range Manage. 30: 361-367.
- 6. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, September). Fire Effects Information System, [Online]. Available: http://www.fs.fed.us/database/feis/[accessed 2/10/03].
- 7. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Wind Erosion. Rangeland Sheet 10 [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html
- 8. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Physical and Biological Soil Crusts. Rangeland Sheet 7 [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

Contributors

David Trujillo Don Sylvester

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

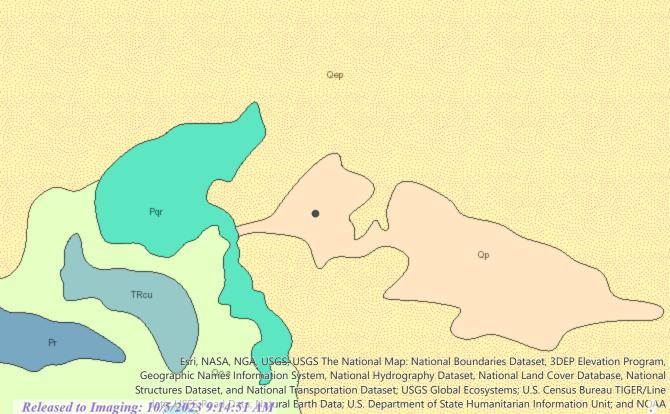
Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

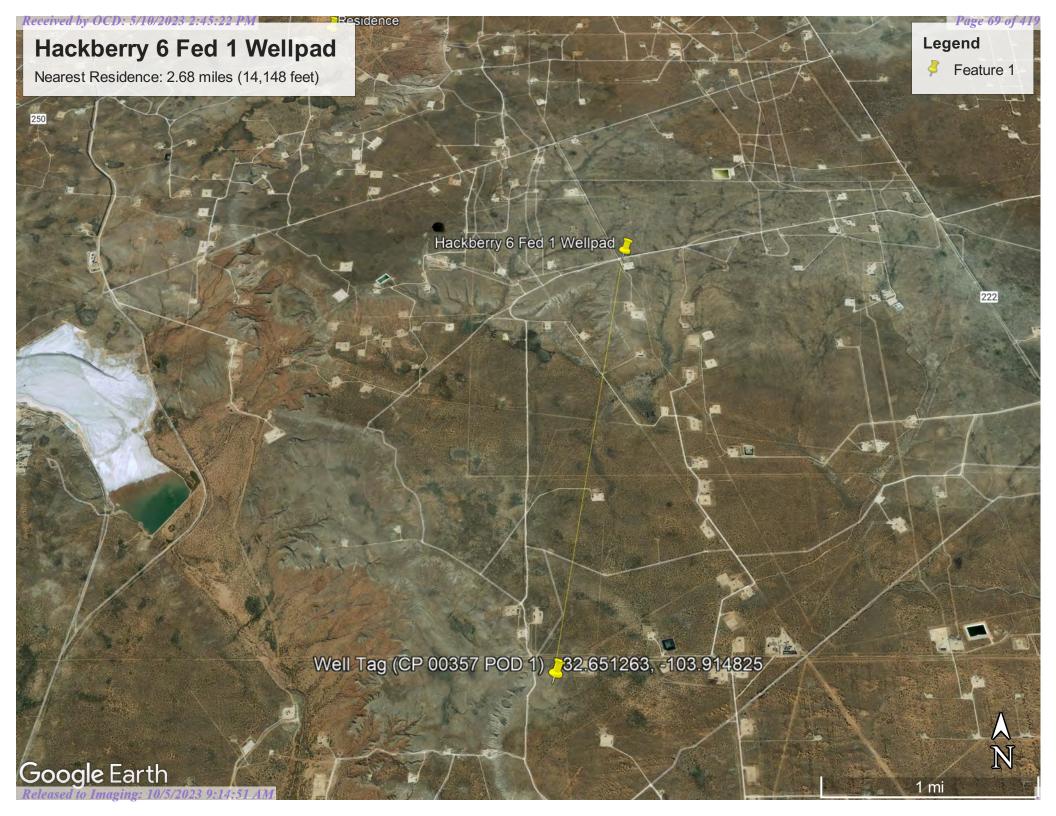
1.	Number and extent of rills:
2.	Presence of water flow patterns:
3.	Number and height of erosional pedestals or terracettes:
4.	Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):
5.	Number of gullies and erosion associated with gullies:
6.	Extent of wind scoured, blowouts and/or depositional areas:
7.	Amount of litter movement (describe size and distance expected to travel):
8.	Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):
9.	Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):
10.	Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:
11.	Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):
12.	Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):
	Dominant:
	Sub-dominant:
	Other:
	Additional:

Released to Imaging: 10/5/2023 9:14:51 AM

13.	Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):
14.	Average percent litter cover (%) and depth (in):
15.	Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):
16.	Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:
17.	Perennial plant reproductive capability:



National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2022., NMBGMR





New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters) (quarters are smallest to largest)

(In feet)

		POD			_									
DOD N. I	C 1	Sub-		QQ	_			ъ	T 7	T .7	D' (D	41 XX 11D		Vater
POD Number	Code	basin	County	64 16	4	Sec	IWS	Kng	X	Y	DistanceDep	thWellDe	pth Water Co	lumn
<u>CP 00767 POD1</u>		CP	ED	3	2	35	18S	30E	599300	3619158*	3692	500		
<u>CP 00873 POD1</u>		CP	LE	1	1	19	19S	31E	601772	3613147*	4138	340	180	160
<u>CP 00818 POD1</u>		CP	LE	1	4	26	18S	30E	599289	3620364*	4450	240		
<u>CP 00829 POD1</u>		CP	LE	2	4	16	19S	31E	606165	3614009*	4917	120		
<u>CP 00357 POD1</u>		CP	ED	4 4	1	24	19S	30E	600667	3612631*	4932	630		
<u>CP 00647 POD1</u>	O	CP	ED	4 2	2	15	19S	30E	598235	3614621*	4956	200	92	108

Average Depth to Water:

136 feet

Minimum Depth:

92 feet

Maximum Depth:

180 feet

Record Count: 6

UTMNAD83 Radius Search (in meters):

Easting (X): 602448.65 **Northing (Y):** 3617230 Radius: 5000

*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.

8/12/22 7:40 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



Hackberry 6 Federal 1 Well Pad 800 Feet (



December 2, 2022

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Lake

Freshwater Forested/Shrub Wetland

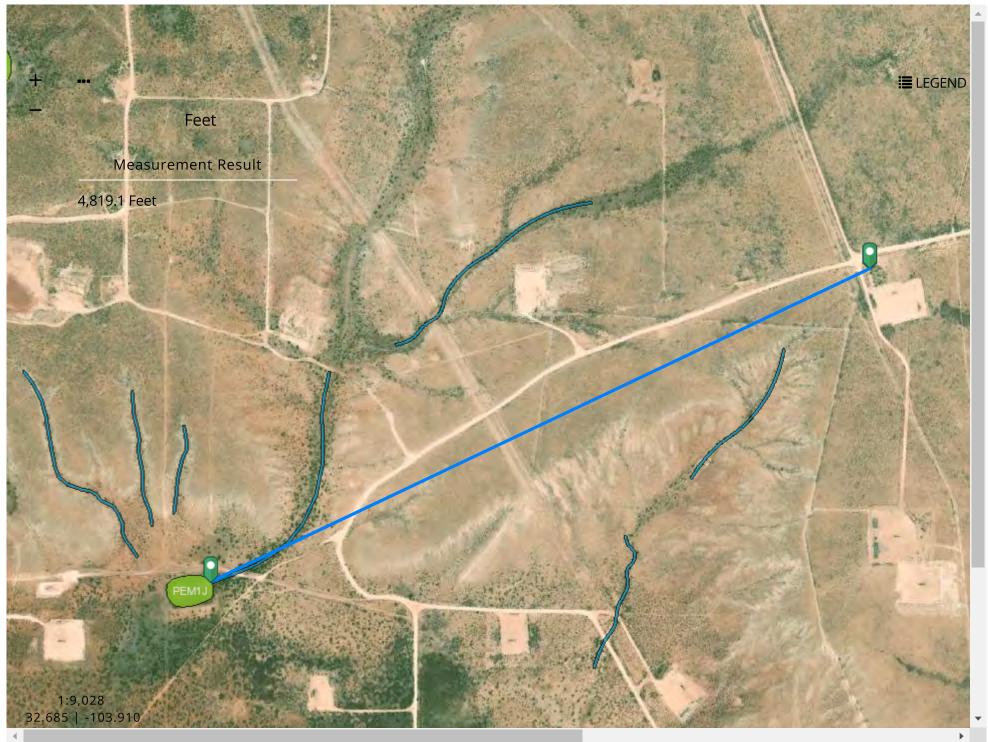
Other

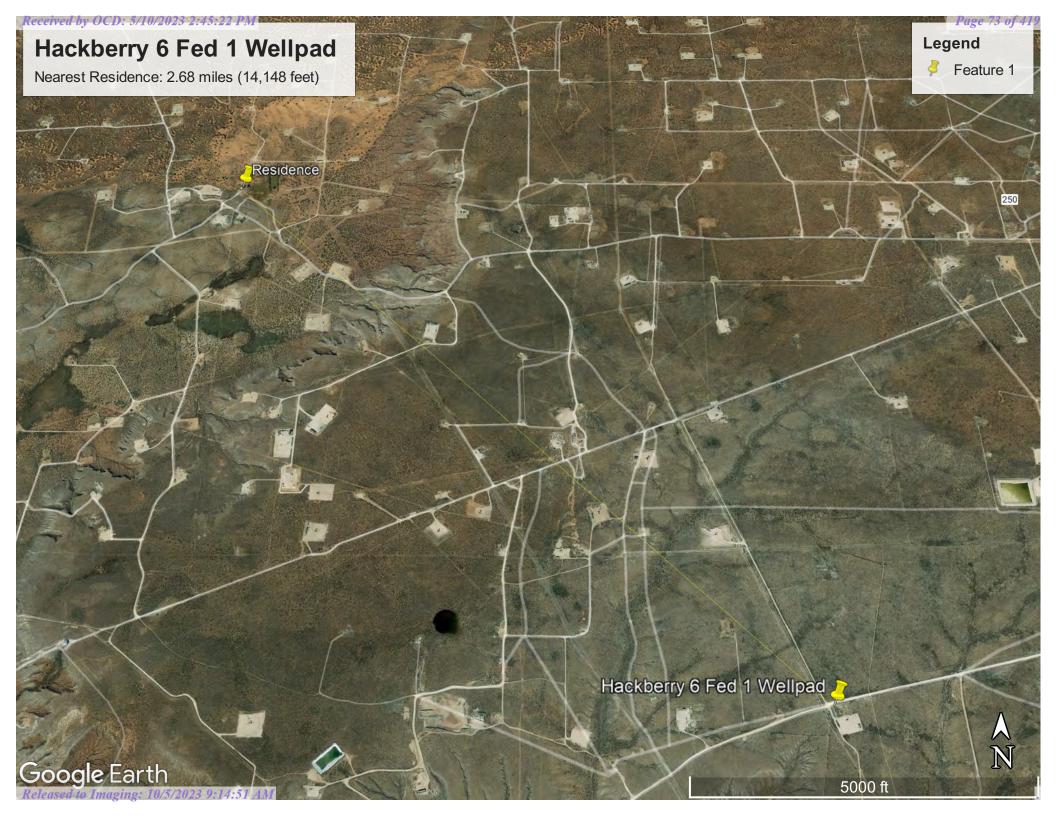
Freshwater Pond



Riverine

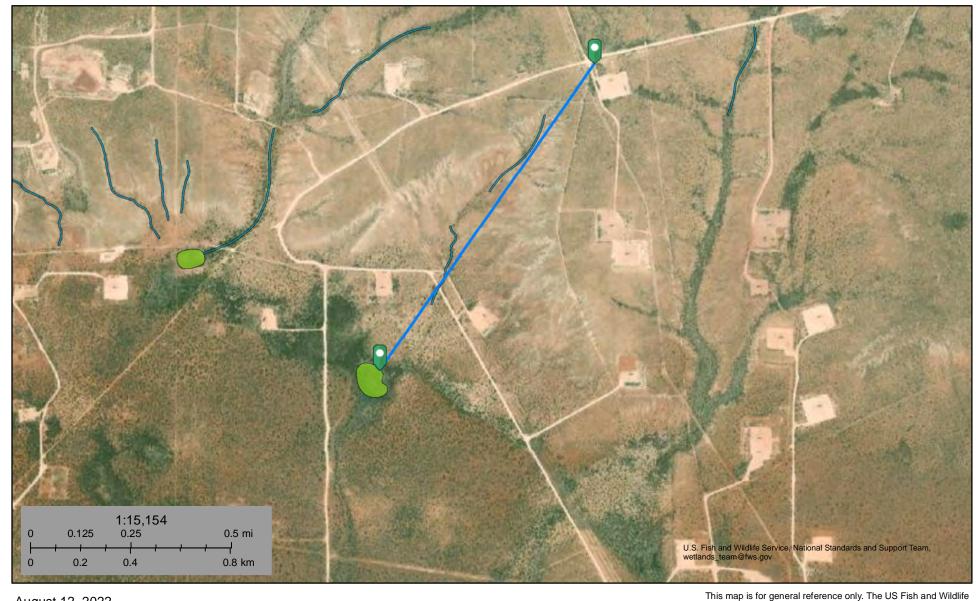
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.







7, Hackberry 6 Fed 1 Wellpad to Wetland



August 12, 2022

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

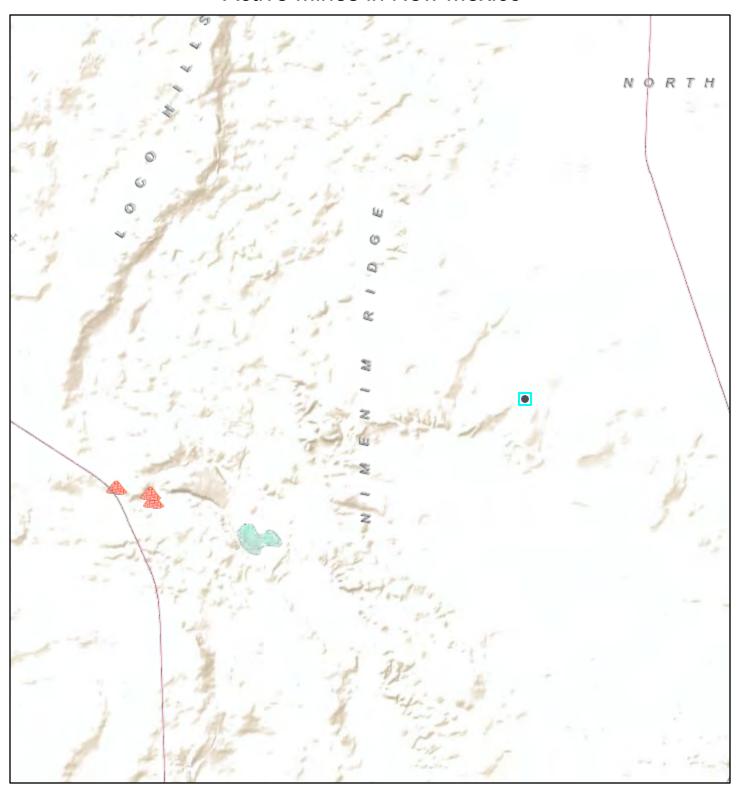
Lake

Riverine

Other

Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Active Mines in New Mexico

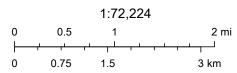


12/2/2022, 8:27:51 AM

Registered Mines

Aggregate, Stone etc.

Potash



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

ORelease To Imaging: 10/5/2023 994:51 AM

Received by OCD: 5/10/2023 2:45:22 PM National Flood Hazard Layer FIRMette





SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT Without Base Flood Elevation (BFE) With BFE or Depth Zone AE, AO, AH, VE, AR SPECIAL FLOOD HAZARD AREAS Regulatory Floodway 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X **Future Conditions 1% Annual** Chance Flood Hazard Zone X Area with Reduced Flood Risk due to Levee. See Notes. Zone X OTHER AREAS OF Area with Flood Risk due to Levee Zone D FLOOD HAZARD NO SCREEN Area of Minimal Flood Hazard Zone X Effective LOMRs OTHER AREAS Area of Undetermined Flood Hazard Zone D - - - Channel, Culvert, or Storm Sewer **GENERAL** STRUCTURES | LILLIL Levee, Dike, or Floodwall 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation **Coastal Transect** Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary **Coastal Transect Baseline** OTHER **Profile Baseline FEATURES** Hydrographic Feature Digital Data Available No Digital Data Available MAP PANELS Unmapped

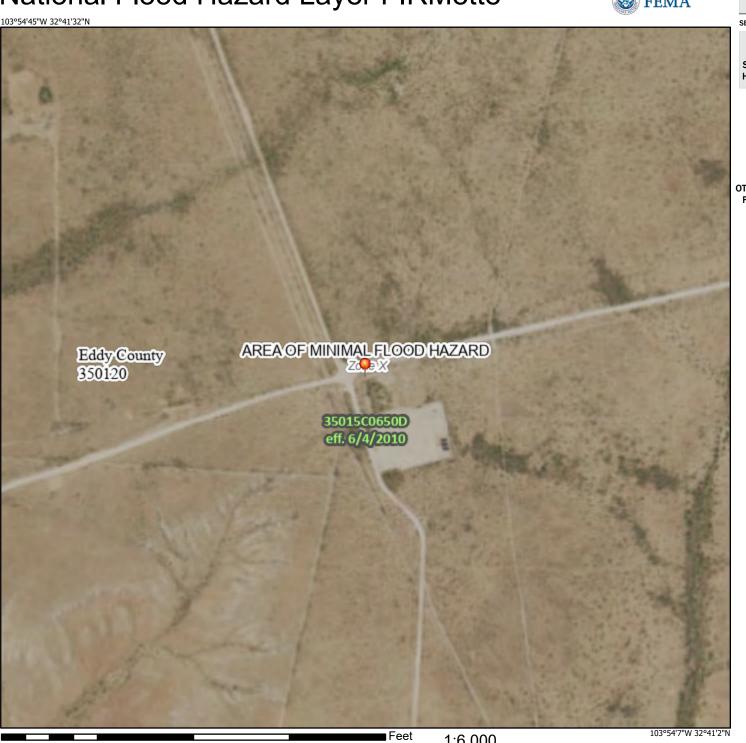
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

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

an authoritative property location.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/12/2022 at 5:54 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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



2.000

Eddy Area, New Mexico

SG—Simona gravelly fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w5w Elevation: 2,750 to 5,000 feet

Mean annual precipitation: 8 to 16 inches

Mean annual air temperature: 57 to 70 degrees F

Frost-free period: 180 to 230 days

Farmland classification: Not prime farmland

Map Unit Composition

Simona and similar soils: 95 percent *Minor components*: 5 percent

Estimates are based on observations, descriptions, and transects of

the mapunit.

Description of Simona

Setting

Landform: Plains, alluvial fans

Landform position (three-dimensional): Rise

Down-slope shape: Convex, linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 19 inches: gravelly fine sandy loam

H2 - 19 to 23 inches: indurated

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 7 to 20 inches to petrocalcic

Drainage class: Well drained Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low

to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0

mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

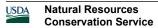
Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Ecological site: R070BD002NM - Shallow Sandy



Map Unit Description: Simona gravelly fine sandy loam, 0 to 3 percent slopes---Eddy Area, New Mexico

Hydric soil rating: No

Minor Components

Simona

Percent of map unit: 4 percent

Ecological site: R070BD002NM - Shallow Sandy

Hydric soil rating: No

Playa

Percent of map unit: 1 percent

Landform: Playas

Landform position (three-dimensional): Talf Down-slope shape: Concave, convex Across-slope shape: Concave, linear

Ecological site: R070BC017NM - Bottomland

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Eddy Area, New Mexico Survey Area Data: Version 18, Sep 8, 2022



Ecological site R070BD002NM Shallow Sandy

Accessed: 12/02/2022

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Associated sites

R070BD004NM	Sandy	
	Sandy sites often occur in association or in a complex with Shallow Sandy Sites.	

Similar sites

R070BD004NM	Sandy	l
	Sandy ecological sites are similar to Shallow Sandy sites in species composition and Transition pathways.	l

Table 1. Dominant plant species

Tree	Not specified		
Shrub	Not specified		
Herbaceous	Not specified		

Physiographic features

This site occures on plains, alluvial fans, uplands, or fan piedmonts. The parent material consists of mixed loamy alluvium or eolian material derived from igneous and sedimentory bedrock. The petrocalcic layer is at a depth of 10 to 25 inches and undulating.

Slopes are nearly level to undulating, usually less than 9 percent. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain(2) Fan piedmont(3) Alluvial fan
Elevation	2,842-4,500 ft
Slope	1–9%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common.

Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity – short duration thunderstorms.

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.

The average frost-free season is from 207 to 220 days. The last killing frost is in late March or early April, and the first killing frost is in late October or early November.

Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of the site. The vegetation of this site can take advantage of the moisture and the time it falls. Because of the soil profile, little moisture can be stored in the soil for any length of time. Moisture is readily available to the plants from the time it falls. Strong winds from the southwest blow from January through June which rapidly dries out the soil profile during a critical period for plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

Table 3. Representative climatic features

Frost-free period (average)	221 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced from water from wetlands or streams.

Soil features

Soils are very shallow to shallow, less than 20 inches in depth. Surface and subsurface textures are gravelly loamy sand, gravelly fine sandy loam or fine sandy loam.

An indurated calache layer occurs at depths of 6 to 25 inches and is at an average of 15 inches from the surface. Underlying material textures are very gravelly fine sandy loam, very gravelly sandy loam, gravelly fine sandy loam. Gravels are calcium carbonate concretions, calcium carbonate content ranges from 30 to 65 percent.

The indurated caliche layer typically holds water up in the profile for short periods within the root zone of plants. These soils will blow if left unprotected by vegetation.

Minimum and maximum values listed below represent the characteristic soils for this site.

Characteristic soils are:

Simona

Jerag

Table 4. Representative soil features

Surface texture	(1) Fine sandy loam (2) Loamy fine sand (3) Gravelly fine sandy loam	
Family particle size	(1) Loamy	
Drainage class	Well drained to moderately well drained	
Permeability class	Moderately slow to moderate	

Soil depth	7–24 in
Surface fragment cover <=3"	5–25%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	1–2 in
Calcium carbonate equivalent (0-40in)	5–15%
Electrical conductivity (0-40in)	0–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	7.4–8
Subsurface fragment volume <=3" (Depth not specified)	5–25%
Subsurface fragment volume >3" (Depth not specified)	0%

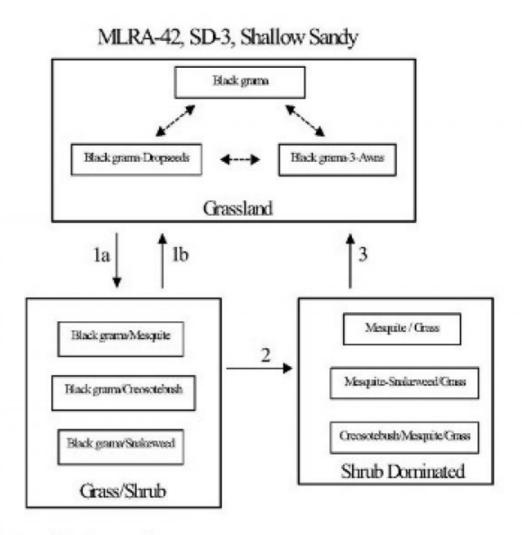
Ecological dynamics

Overview

The Shallow Sandy site occurs on upland plains, and tops of low ridges and mesas, associated with Sandy, Loamy Sand, and Shallow sites. Coarse to moderately coarse soil surface textures, shallow depth (<20 inches) to an indurated caliche layer (petrocalcic horizon), and an overwhelming dominance by black grama help to distinguish this site. The historic plant community of the Shallow Sandy site is a black grama dominated grassland sparsely dotted with shrubs. Shrubs, especially mesquite and creosotebush can increase or colonize due to the dispersal of shrub seeds by livestock or wildlife. This increase in mesquite and colonization of creosotebush may be enhanced by proximity to areas with existing high shrub densities. Fire suppression, and the loss of grass cover due to overgrazing or drought may facilitate the increase and encroachment of shrubs. Persistent loss of grass cover, competition for resources by shrubs, and periods of climate with increased winter precipitation and dry summers, may initiate the transition to a shrub-dominated state.

State and transition model

Plant Communities and Transitional Pathways (diagram)



Seed dispersal, drought, overgrazing, fire suppression.

- Prescribed fire, brush control, prescribed grazing.
- 2. Persistent loss of grass cover, resource competition, increased winter precipitation.
- Brush control, range seeding, prescribed grazing.

State 1 Historic Climax Plant Community

Community 1.1 Historic Climax Plant Community

Grassland: This site responds well to management and is resistant to state change, due to the shallow depth to petrocalcic horizon and sandy surface textures. The sandy surface textures allow rapid water infiltration and the petrocalcic horizon helps to keep water perched and available to shallow rooted grasses. Black grama is the dominant species in the historic plant community, averaging 50 to 60 percent of the total production for this site. Bush muhly, blue grama, and dropseeds are present as sub-dominants. Typically, yucca, javalinabush, range ratany, prickly pear, and mesquite are sparsely dotted across the landscape. Leatherweed croton, cutleaf

happlopappus, wooly groundsel, and threadleaf groundsel are common forbs. Continuous heavy grazing or extended periods of drought will cause a loss of grass cover characterized by a decrease in black grama, bush muhly, blue and sideoats grama, plains bristlegrass, and Arizona cottontop. Dropseeds and or threeawns may increase and become sub-dominant to black grama. Continued loss of grass cover in conjunction with dispersal of shrub seeds and fire suppression is believed to cause the transition to a state with increased amounts of shrubs (Grass/Shrub state). Diagnosis: Black grama is the dominant grass species. Grass cover uniformly distributed. Shrubs are a minor component averaging only two to five percent canopy cover. Litter cover is high (40-50 percent of area), and litter movement is limited to smaller size class litter and short distances (<. 5m). Other grasses that could appear on this site would include: six-weeks grama, fluffgrass, false-buffalograss, hairy grama, little bluestem, bristle panicum, cane bluestem, Indian ricegrass, tridens spp., and red lovegrass. Other woody plants include: pricklypear, cholla, fourwing saltbush, catclaw mimosa, winterfat, American tarbush and mesquite. Other forbs include: globemallow, verbena, desert holly, senna, plains blackfoot, trailing fleabane, fiddleneck, deerstongue, wooly Indianwheat, and locoweed.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	
Grass/Grasslike	474	652	830
Forb	78	107	136
Shrub/Vine	48	66	84
Total	600	825	1050

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	30-35%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	40-50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	15-25%

Figure 5. Plant community growth curve (percent production by month). NM2802, R042XC002NM-Shallow Sandy-HCPC. SD-3 Shallow Sandy - Warm season plant community.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

State 2 Grass/Shrub

Community 2.1 Grass/Shrub

Grass/Shrub: This state is characterized by the notable presence of shrubs, especially mesquite, broom snakeweed, and/or creosotebush, however grasses remain as the dominant species. Black grama is the dominant

grass species. Threeawns and or dropseeds are sub-dominant. The susceptibility of the Shallow Sandy site to shrub encroachment may be higher when located adjacent to other sites with high densities of mesquite or creosotebush. Retrogression within this site is characterized by decreases in grass cover and increasing densities of shrubs. Diagnosis: Black grama remains as the dominant grass species. Grass cover varies in response to the amount of shrub increase, ranging from uniform to patchy. Shrubs are found at increased densities relative to the grassland state, especially mesquite, creosotebush, or broom snakeweed. Transition to Grass/Shrub (1a) Historically fire may have kept mesquite and other shrubs in check by completely killing some species and disrupting seed production cycles and suppressing the establishment of shrub seedlings in others. Fire suppression combined with seed dispersal by livestock and wildlife is believed to be the factors responsible for the establishment and increase in shrubs.1, 3 Loss of grass cover due to overgrazing, prolonged periods of drought, or their combination, reduces fire fuel loads and increases the susceptibility of the site to shrub establishment. Key indicators of approach to transition: Increase in the relative abundance of dropseeds and threeawns Presence of shrub seedlings Loss of organic matter—evidenced by an increase in physical soil crusts 8 Transition back to Grassland (1b) Brush control is necessary to initiate the transition back to the grassland state. If adequate fuel loads remain, possibly the reintroduction of fire as a management tool will assist in the transition back, however, mixed results have been observed concerning the effects of fire on black grama grasslands.6 Prescribed grazing will help ensure adequate rest following brush control and will assist in the establishment and maintenance of grass cover capable of sustaining fire.

State 3 Shrub Dominated

Community 3.1 Shrub Dominated

Shrub-Dominated: Across the range of soil types included in the Shallow Sandy site, mesquite is typically the dominant shrub, but it does occur as a co-dominant or sub-dominant species with creosotebush or broom snakeweed. Mesquite tends to dominate when the Shallow Sandy site occurs as part of a complex or in association with Sandy or Loamy Sand sites. Creosotebush tends to dominate on Shallow Sandy sites that occur as part of, or adjacent to Shallow Sites. Broom snakeweed increases in response to heavy grazing, but tends to cycle in and out depending on timing of rainfall. However, once the site is dominated by shrubs and snakeweed becomes well established, it tends to remain as a major component in the shrub dominated state. Diagnosis: Mesquite, creosotebush, or snakeweed cover is high, exceeding that of grasses. Grass cover is patchy with large connected bare areas present. Black grama, threeawns, or dropseeds may be the dominant grass. Evidence of accelerated wind erosion in the form of pedestalling of plants, and soil deposition around shrub bases may be common. Transition to Shrub-Dominated (2) Persistent loss of grass cover and the resulting increased competition between shrubs and remaining grasses for dwindling resources (especially soil moisture) may drive this transition.5 Additionally periods of increased winter precipitation may facilitate periodic episodes of shrub expansion and establishment. 4 Key indicators of approach to transition: Increase in size and frequency of bare patches. Loss of grass cover in shrub interspaces. Increased signs of erosion, evidenced by pedestalling of plants, and soil and litter deposition on leeward side of plants. 7 Transition back to Grassland (3) Brush control is necessary to reduce competition from shrubs and reestablish grasses. Range seeding may be necessary if insufficient grasses remain, The benefits, and costs, will vary depending upon the degree of site degradation, and adequate precipitation following seeding.

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)			
Grass/Grasslike								
1	Warm Season			413–495				
	black grama	BOER4	Bouteloua eriopoda	413–495	_			
2	Warm Season			41–83				
	bush muhly	MUPO2	Muhlenbergia porteri	41–83	_			
3	Warm Season			41–83				

	1			<u>i</u>	1
	blue grama	BOGR2	Bouteloua gracilis	41–83	-
4	Warm Season			25–41	
	sideoats grama	BOCU	Bouteloua curtipendula	25–41	ı
5	Warm Season	41–83			
	spike dropseed	SPCO4	Sporobolus contractus	41–83	ı
	sand dropseed	SPCR	Sporobolus cryptandrus	41–83	I
	mesa dropseed	SPFL2	Sporobolus flexuosus	41–83	ı
6	Warm Season			17–41	
	threeawn	ARIST	Aristida	17–41	-
7	Warm Season			41–83	
	Arizona cottontop	DICA8	Digitaria californica	41–83	I
	plains bristlegrass	SEVU2	Setaria vulpiseta	41–83	ı
8	Warm Season			41–83	
	mat sandbur	CELO3	Cenchrus longispinus	41–83	-
	hooded windmill grass	CHCU2	Chloris cucullata	41–83	_
9	Other Perennial Grasses	-		25–41	
	Grass, perennial	2GP	Grass, perennial	25–41	_
Shru	b/Vine				
10	Shrub			8–25	
	javelina bush	COER5	Condalia ericoides	8–25	_
11	Shrub			8–25	
	yucca	YUCCA	Yucca	8–25	_
12	Shrub	•		8–25	
	jointfir	EPHED	Ephedra	8–25	_
	littleleaf ratany	KRER	Krameria erecta	8–25	_
13	Shrub			8–25	
	featherplume	DAFO	Dalea formosa	8–25	_
14	Shrub	•		8–25	
	broom snakeweed	GUSA2	Gutierrezia sarothrae	8–25	_
15	Other Shrubs	•		25–41	
	Shrub (>.5m)	2SHRUB	Shrub (>.5m)	25–41	_
Forb		•			
16	Forb			17–41	
	leatherweed	CRPOP	Croton pottsii var. pottsii	17–41	_
	Goodding's tansyaster	MAPIG2	Machaeranthera pinnatifida ssp. gooddingii var. gooddingii	17–41	-
17	Forb	17–41			
	woolly groundsel	PACA15	Packera cana	17–41	_
	threadleaf ragwort	SEFLF	Senecio flaccidus var. flaccidus	17–41	_
18	Forb	8–25			
	whitest evening primrose	OEAL	Oenothera albicaulis	8–25	_
19	Other Forbs	1		8–25	
	Forb (herbaceous, not grass nor grass-like)	2FORB	Forb (herbaceous, not grass nor grass-like)	8–25	-
	-	-	•	-	

Animal community

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, swift fox, black-tailed jackrabbit, spotted ground squirrel, Ord's kangaroo rat, northern grasshopper mouse, coyote, horned lark, meadowlark, lark bunting, scaled quail, morning dove, side-blotched lizard, round-tailed horned lizard, marbled whiptail, prairie rattlesnake and ornate box turtle.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations Soil Series Hydrologic Group Jarag D Simona D

Recreational uses

This site offers recreation for hiking, horseback riding, nature observation and photography, and quail and dove hunting. During years of abundant spring moisture, this site displays a riot of color from wildflowers during May and June. A few summer and fall flowers also occur.

Wood products

The natural potential plant community of this site affords little or no wood products. Where the site has been invaded by mesquite or cholla cactus the roots and stems of these plants provide attractive material for a variety of curiosities, such as lamps and small furniture.

Other products

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. Because of the sandy textures and shallow profile, this site will respond rapidly to management. As this site deteriorates, plants such as black grama, bush muhly, blue and sideoats grama, plains bristlegrass and Arizona cottontop, will decrease and be replaced by plants such as threeawns, mesquite, creosote bush, and broom snakeweed. This also causes a decrease in ground cover, leaving the soil to blow. This site responds best to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month Similarity Index Ac/AUM 100 - 76 2.5 - 3.5 75 - 51 3.2 - 4.6 50 - 26 4.5 - 7.5 25 - 0 7.6 +

Inventory data references

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

Other references

Literature References:

- 1. Brooks, M.L. and D.A. Pyke. 2001. Invasive plants and fire in the deserts of North America. Pages 1–14 in K.E.M. Galley and T.P. Wilson (eds.). Proceedings of the Invasive Species Workshop: the Role of Fire in the Control and Spread of Invasive Species.
- 2. Hennessy, J.T., R.P. Gibbens, J.M. Tromble, and M. Cardenas. 1983. Water properties of caliche. J. Range Manage. 36: 723-726.
- 3. Humphrey, R.R. 1974. Fire in the deserts and desert grassland of North America. In: Kozlowski, T. T.; Ahlgren, C. E., eds. Fire and ecosystems. New York: Academic Press: 365-400.
- 4. Moir, W.H., and J. A. Ludwig. 1991. Plant succession and changing land features in desert grasslands. P. 15-18. In P.F. Ffolliott and W.T. Swank (eds.) People and the temperate region: a summary of research from the United States Man and the Biosphere Program 1991. U.S. Dept. State, Publ No. 9839, Nat. Tech. Info. Serv., U.S. Dept. Commerce, Springfield, Illinois. 63 p.
- 5. Tiedemann, A. R. and J. O. Klemmedson. 1977. Effect of mesquite trees on vegetation and soils in the desert grassland. J. Range Manage. 30: 361-367.
- 6. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, September). Fire Effects Information System, [Online]. Available: http://www.fs.fed.us/database/feis/[accessed 2/10/03].
- 7. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Wind Erosion. Rangeland Sheet 10 [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html
- 8. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Physical and Biological Soil Crusts. Rangeland Sheet 7 [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

Contributors

David Trujillo Don Sylvester

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

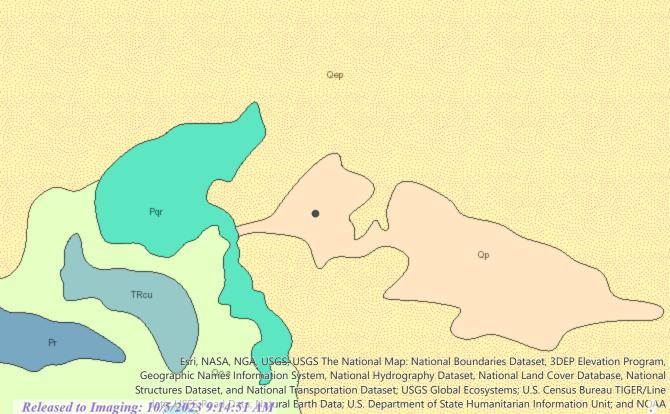
	1
Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1.	Number and extent of rills:
2.	Presence of water flow patterns:
3.	Number and height of erosional pedestals or terracettes:
4.	Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):
5.	Number of gullies and erosion associated with gullies:
6.	Extent of wind scoured, blowouts and/or depositional areas:
7.	Amount of litter movement (describe size and distance expected to travel):
8.	Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):
9.	Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):
10.	Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:
11.	Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):
12.	Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):
	Dominant:
	Sub-dominant:
	Other:
	Additional:

Released to Imaging: 10/5/2023 9:14:51 AM

13.	Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):
14.	Average percent litter cover (%) and depth (in):
15.	Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):
16.	Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:
17.	Perennial plant reproductive capability:



National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2022., NMBGMR

	Criteria Worksheet e: Hackberry 6 Fed 1 Wellpad			
	rdinates:	X: 32.688026	Y: -103.907163	
•	ific Conditions	Value	Unit	
1	Depth to Groundwater	>100	feet	
	Within 300 feet of any continuously flowing	200	Feet	
2	watercourse or any other significant watercourse	800		
	Within 200 feet of any lakebed, sinkhole or playa lake	4.040	Feet	
3	(measured from the ordinary high-water mark)	4,819		
	Within 300 feet from an occupied residence, school,	44440		
4	hospital, institution or church	14,148	Feet	
	i) Within 500 feet of a spring or a private, domestic			
	fresh water well used by less than five households for	14,148	Feet	
5	domestic or stock watering purposes, or			
	ii) Within 1000 feet of any fresh water well or spring	14,148	Feet	
	Within incorporated municipal boundaries or within a			
	defined municipal fresh water field covered under a		(Y/N)	
6	municipal ordinance adopted pursuant to Section 3-27-	No		
	3 NMSA 1978 as amended, unless the municipality			
	specifically approves			
7	Within 300 feet of a wetland	4,129	feet	
8	Within the area overlying a subsurface mine	No	(Y/N)	
			Critical	
0	MODEL CONTRACTOR (MARCHANA)		High	
9	Within an unstable area (Karst Map)	Low	Medium	
			Low	
10	Within a 100 year Floodylein	l la datamaia ad	Voor	
10	Within a 100-year Floodplain	Undetermined	Year	
11	Soil Type	SG	Soil	
	Son Type	30	3011	
12	Ecological Classification	Simona	Plant	
		0		
13	Geology	Qр	Age	
			<50'	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>100'	51-100'	
			>100'	

	Criteria Worksheet		
Site Nam	e: Hackberry 6 Fed 1 Wellpad rdinates:	X: 32.688026	Y: -103.907163
-	ific Conditions	Value	Unit
1	Depth to Groundwater	>100	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	800	Feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	4,819	Feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	14,148	Feet
i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or		14,148	Feet
i	ii) Within 1000 feet of any fresh water well or spring	14,148	Feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	4,129	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	Undetermined	Year
11	Soil Type	SG	Soil
12	Ecological Classification	Simona	Plant
13	Geology	Qp	Age
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>100'	<50' 51-100' >100'

ATTACHMENT 5



Client: Devon Energy Inspection Date: 6/21/2021

Corporation

Site Location Name: Helios 6 Fed Com 001H Report Run Date: 6/21/2021 9:19 PM

Battery

Client Contact Name: Wes Matthews API #: 30-015-38482

Client Contact Phone #: (575) 748-0176

Unique Project ID Project Owner:

Project Reference # Project Manager:

Summary of Times

Arrived at Site 6/21/2021 8:00 AM

Departed Site 6/21/2021 12:00 PM

Field Notes

15:10 Arrived on site to white line the spill for locators.

Next Steps & Recommendations

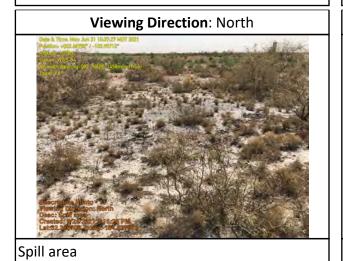
1 Characterization



Site Photos



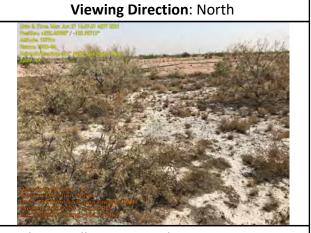
Point of release



Viewing Direction: North

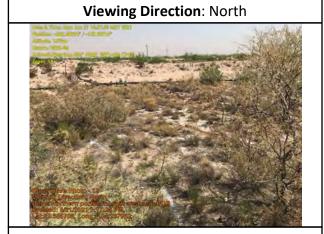
| Sink A Time, New Jun 2 10,279.07 MIRT 2011
| Parlies - 202.68787 | -1.02.99.07
| Alliula - 102.69
|

Center spill area



Northern spill area towards POR



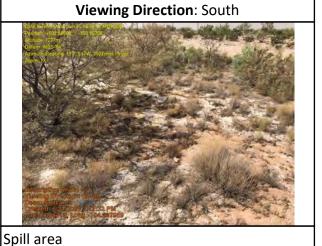


Viewing Direction: South

Northern portion of spill area near POR

Spill area









Viewing Direction: Southwest Spill area towards southern end

Spill area

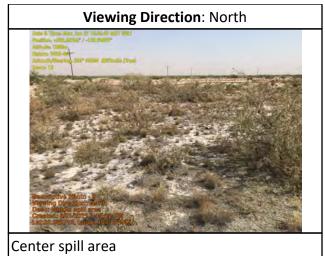
Viewing Direction: Northwest

Viewing Direction: North

Southern end Spill area

Southern end of spill area







Daily Site Visit Signature

Inspector: Austin Harris

Signature:



Client:	Devon Energy Corporation	Inspection Date:	11/3/2022
Site Location Name:	Hackberry 6 Fed 1 Wellpad	Report Run Date:	11/3/2022 8:06 PM
Client Contact Name:	Jim Raley	API #:	
Client Contact Phone #:	575-748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	
Summary of Times			
Arrived at Site	11/3/2022 8:45 AM		
Departed Site	11/3/2022 12:00 PM		

Field Notes

- 11:22 Arrived on site to assess the most recent release north of the pad. Line sweep was performed prior to collecting samples with a hand auger. No lines were detected in the sample areas.

 Collected BH22-01 through BH22-06 around the release area for horizontal delineation to make sure the second release did not migrate further than the release labeled as "Helios".
- 11:14 Collected and field screened BH22-07 and BH22-08 down to 4' for vertical delineation.
- **11:15** BH22-01 through BH22-06 all field screened below strictest criteria at 0-2'. BH22-07 and BH22-08 field screened above strictest criteria on chlorides with EC and titration.
- 11:15 All samples will be sent to lab for analysis.
- 11:22 The recent release does not appear to have migrated further than the original release (Helios)

Next Steps & Recommendations

1 Send samples to lab for analysis and determine DTGW



Site Photos





Sample area for BH22-01 south side of release area

Viewing Direction: West



Sample area for BH22-04 north side of release area

Viewing Direction: Northwest



Sample area for BH22-02 and BH22-03 east side of release area

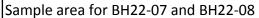
Viewing Direction: Southeast



Sample area for BH22-05 and BH22-06 west side of release area









Sample area for BH22-08



Daily Site Visit Signature

Inspector: Chance Dixon

Signature:



Client:	Devon Energy Corporation	Inspection Date:	12/13/2022	
Site Location Name:	Hackberry 6 Fed 1 Wellpad	Report Run Date:	12/13/2022 8:16 PM	
Client Contact Name:	Wes Matthews	API #:		
Client Contact Phone #:	(575) 748-0176	-		
Unique Project ID		Project Owner:		
Project Reference #		Project Manager:		
Summary of Times				
Arrived at Site	12/13/2022 10:50 AM			
Departed Site	12/13/2022 12:15 PM			
Field Notes				

Field Notes

11:59 Arrived on site with Vision for DTGW borehole. Borehole was drilled to 105' on the southwest corner of the Helios 6 battery. Ran the sounder into the borehole to the bottom. No water was detected. Will run it again in 72 hours

Next Steps & Recommendations

1 Come back in 72 hours to run the sounder and remove the casing

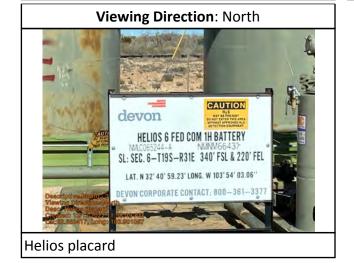


Site Photos



Drilling rig







Daily Site Visit Signature

Inspector: Chance Dixon

Signature:

Departed Site

Daily Site Visit Report



Client: **Devon Energy** Inspection Date: 12/16/2022 Corporation Hackberry 6 Fed 1 Report Run Date: 12/16/2022 10:41 PM Site Location Name: Wellpad Wes Matthews Client Contact Name: API#: Client Contact Phone #: (575) 748-0176 Unique Project ID Project Owner: Project Reference # Project Manager: **Summary of Times** Arrived at Site 12/16/2022 11:48 AM

Field Notes

12:44 Arrived on site to run sounder into the DTGW borehole and P&A it.

12/16/2022 1:13 PM

- 12:42 Sounder was ran all the way down to the bottom of the borehole at 105' with no water detected.
- 13:13 The borehole has been plugged to the surface with bentonite

Next Steps & Recommendations

1 Begin remediation for Hackberry/Helios with >100' criteria



Site Photos



Sounder down to 105'



Viewing Direction: Northeast



Sounder down to 105'



Borehole has been plugged







Daily Site Visit Signature

Inspector: Chance Dixon

Signature:



Devon Energy Client: Inspection Date: 1/20/2023 Corporation 1/20/2023 11:07 PM Hackberry 6 Fed 1 Report Run Date: Site Location Name: Wellpad Wes Matthews Client Contact Name: API#: Client Contact Phone #: (575) 748-0176 **Unique Project ID** Project Owner:

 Project Reference #
 Project Manager:

 Summary of Times

 Arrived at Site
 1/20/2023 8:15 AM

 Departed Site
 1/20/2023 2:15 PM

Field Notes

- **8:25** Completed safety meeting.
- 8:36 Collecting samples beginning with 100
- 9:34 Collected WS23-43 through 45
- 11:44 Recollected 43 and 44
- 13:39 Finished screening all samples, prepared them for lab

Next Steps & Recommendations

1 Await lab results and closure



Site Photos

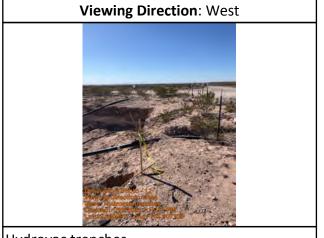


Excavation



Viewing Direction: Southeast

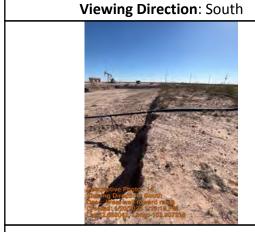
East lobe of excavation



Hydrovac trenches







Excavation

West wall toward ramp





Supported lines

North half of excavation





North half of excavation



South half of excavation





Run on 1/20/2023 11:07 PM UTC Powered by www.krinkleldar.com Page 4 of 7





Berm and excavation



East walls of excavation



Southeast corner of the eastern lobe



South wall of excavation





Eastern lobe of excavation



North wall of excavation





Viewing Direction: Southwest Supported lines

Run on 1/20/2023 11:07 PM UTC Powered by www.krinkleldar.com Page 6 of 7



Daily Site Visit Signature

Inspector: Sally Carttar

Signature:

ATTACHMENT 6



Dhugal Hanton <vertexresourcegroupusa@gmail.com>

48-Hour Notification - Helios 6 Fed Com Battery/Hackberry 6 Federal 1 Wellpad

8 messages

Dhugal Hanton <vertexresourcegroupusa@gmail.com> To: "Enviro, OCD, EMNRD" < OCD. Enviro@state.nm.us> Cc: wesley.mathews@dvn.com, KStallings@vertex.ca

Wed, Dec 28, 2022 at 3:57 PM

AII,

Please accept this email as a notification that Vertex Resource Services has scheduled a sampling event to be conducted at the following releases.

nAPP2116940090 (Helios) nAPP2219226827 (Hackberry)

On Tuesday, January 3, 2023, Vertex will be on-site to conduct confirmation sampling. The sampling will continue through Tuesday, January 10, 2023. If you have any questions regarding this notification, please call me at 575-988-1472.

Thank you,

Chance Dixon B.Sc.

Sr Environmental Technologist

Vertex Resource Services Inc. 3101 Boyd Drive, Carlsbad, NM 88220

C 575.988.1472

Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Wed, Dec 28, 2022 at 4:10 PM

To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD"

<Robert.Hamlet@emnrd.nm.gov>

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Jocelyn Harimon • Environmental Specialist

Environmental Bureau

EMNRD - Oil Conservation Division

1220 South St. Francis Drive | Santa Fe, NM 87505

(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Sent: Wednesday, December 28, 2022 3:57 PM

To: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov> Cc: wesley.mathews@dvn.com; KStallings@vertex.ca

Subject: [EXTERNAL] 48-Hour Notification - Helios 6 Fed Com Battery/Hackberry 6 Federal 1 Wellpad

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

[Quoted text hidden]

Dhugal Hanton <vertexresourcegroupusa@gmail.com> To: "Enviro, OCD, EMNRD" < OCD. Enviro@state.nm.us> Thu, Jan 5, 2023 at 8:16 AM

All,

Vertex respectfully requests that confirmation sampling for this location be extended to Monday, January 9, 2023, through January 13, 2023. If you have any questions, please call me at 575-988-1472.

Thank you,

Chance Dixon B.Sc.

Sr Environmental Technologist

Vertex Resource Services Inc. 3101 Boyd Drive, Carlsbad, NM 88220

C 575.988.1472

[Quoted text hidden]

Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov> To: Dhugal Hanton <vertexresourcegroupusa@gmail.com> Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov> Thu, Jan 5, 2023 at 10:00 AM

Dhugal,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon • Environmental Specialist

Environmental Bureau

EMNRD - Oil Conservation Division

1220 South St. Francis Drive | Santa Fe, NM 87505

(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Sent: Thursday, January 5, 2023 8:17 AM

To: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Subject: [EXTERNAL] Re: 48-Hour Notification - Helios 6 Fed Com Battery/Hackberry 6 Federal 1 Wellpad

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

[Quoted text hidden] [Quoted text hidden]

Dhugal Hanton <vertexresourcegroupusa@gmail.com> To: "Enviro, OCD, EMNRD" < OCD. Enviro@emnrd.nm.gov> Thu, Jan 12, 2023 at 11:35 AM

All,

Vertex respectfully requests that confirmation sampling for this location be extended to Monday, January 16, 2023, through January 20, 2023. If you have any questions, please call me at 575-988-1472.

Thank you,

Chance Dixon B.Sc.

Sr Environmental Technologist

Vertex Resource Services Inc. 3101 Boyd Drive, Carlsbad, NM 88220

C 575.988.1472

[Quoted text hidden]

Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov> To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Thu, Jan 12, 2023 at 1:13 PM

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Jocelyn Harimon • Environmental Specialist

[Quoted text hidden]

Dhugal Hanton <vertexresourcegroupusa@gmail.com> To: "Enviro, OCD, EMNRD" < OCD. Enviro@state.nm.us> Thu, Jan 19, 2023 at 7:33 AM

All,

Vertex respectfully requests that confirmation sampling for this location be extended to Monday, January 23, 2023, through January 28, 2023. If you have any questions, please call me at 575-988-1472.

Thank you,

Chance Dixon B.Sc.

Sr Environmental Technologist

Vertex Resource Services Inc. 3101 Boyd Drive, Carlsbad, NM 88220

C 575.988.1472

On Wed, Dec 28, 2022 at 3:57 PM Dhugal Hanton <vertexresourcegroupusa@gmail.com> wrote: [Quoted text hidden]

Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Thu, Jan 19, 2023 at 8:08 AM

To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD"

<Robert.Hamlet@emnrd.nm.gov>

Mr. Hanton,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon • Environmental Specialist

Environmental Bureau

EMNRD - Oil Conservation Division

1220 South St. Francis Drive | Santa Fe, NM 87505

(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Sent: Thursday, January 19, 2023 7:33 AM

To: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Subject: [EXTERNAL] Re: 48-Hour Notification - Helios 6 Fed Com Battery/Hackberry 6 Federal 1 Wellpad

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

AII,

[Quoted text hidden]

[Quoted text hidden]

ATTACHMENT 7

Hall Environmental Analysis Laboratory

TEL: 505-345-3975 FAX: 505-345-4107

4901 Hawkins NE

Albuquerque, NM 87109



Website: clients.hallenvironmental.com

July 06, 2021

John Hurt

Vertex Resources Services, Inc. 3101 Boyd Drive Carlsbad, NM 88220

TEL: (505) 506-0040

FAX

RE: Helios 6 Fed Com 1H OrderNo.: 2106D66

Dear John Hurt:

Hall Environmental Analysis Laboratory received 15 sample(s) on 6/25/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BG21-01 0-0.5'

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/22/2021 10:00:00 AM

 Lab ID:
 2106D66-001
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/29/2021 11:18:56 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/29/2021 11:18:56 PM
Surr: DNOP	65.1	70-130	S	%Rec	1	6/29/2021 11:18:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/1/2021 2:20:00 PM
Surr: BFB	91.5	70-130		%Rec	1	7/1/2021 2:20:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 2:20:00 PM
Toluene	ND	0.048		mg/Kg	1	7/1/2021 2:20:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	7/1/2021 2:20:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	7/1/2021 2:20:00 PM
Surr: 4-Bromofluorobenzene	88.4	70-130		%Rec	1	7/1/2021 2:20:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	7/1/2021 2:43:56 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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 19

Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BG21-01 1.0'

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/22/2021 10:10:00 AM

 Lab ID:
 2106D66-002
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	6/29/2021 11:43:22 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	6/29/2021 11:43:22 PM
Surr: DNOP	56.1	70-130	S	%Rec	1	6/29/2021 11:43:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/1/2021 2:40:00 PM
Surr: BFB	91.4	70-130		%Rec	1	7/1/2021 2:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.025		mg/Kg	1	7/1/2021 2:40:00 PM
Toluene	ND	0.050		mg/Kg	1	7/1/2021 2:40:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/1/2021 2:40:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/1/2021 2:40:00 PM
Surr: 4-Bromofluorobenzene	88.2	70-130		%Rec	1	7/1/2021 2:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	7/1/2021 2:56:20 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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 2 of 19

Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BG21-01 2.0'

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/22/2021 10:15:00 AM

 Lab ID:
 2106D66-003
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/30/2021 12:07:42 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2021 12:07:42 AM
Surr: DNOP	58.6	70-130	S	%Rec	1	6/30/2021 12:07:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/1/2021 3:00:00 PM
Surr: BFB	97.7	70-130		%Rec	1	7/1/2021 3:00:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 3:00:00 PM
Toluene	ND	0.048		mg/Kg	1	7/1/2021 3:00:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	7/1/2021 3:00:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	7/1/2021 3:00:00 PM
Surr: 4-Bromofluorobenzene	90.6	70-130		%Rec	1	7/1/2021 3:00:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	7/1/2021 3:08:45 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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 19

CLIENT: Vertex Resources Services, Inc.

Analytical ReportLab Order **2106D66**

Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH21-01 0-0.5'

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/22/2021 11:00:00 AM

 Lab ID:
 2106D66-004
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: BRM Diesel Range Organics (DRO) ND 9.8 mg/Kg 1 6/30/2021 12:32:06 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 6/30/2021 12:32:06 AM Surr: DNOP 77.2 70-130 %Rec 1 6/30/2021 12:32:06 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: mb Gasoline Range Organics (GRO) ND 7/1/2021 3:20:00 PM 4.8 mg/Kg 1 Surr: BFB 96.6 70-130 %Rec 1 7/1/2021 3:20:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: mb Benzene ND 7/1/2021 3:20:00 PM 0.024 mg/Kg 1 Toluene ND 0.048 mg/Kg 1 7/1/2021 3:20:00 PM Ethylbenzene ND 0.048 mg/Kg 1 7/1/2021 3:20:00 PM Xylenes, Total ND 0.096 mg/Kg 1 7/1/2021 3:20:00 PM 7/1/2021 3:20:00 PM Surr: 4-Bromofluorobenzene 92.9 70-130 %Rec 1 Analyst: VP **EPA METHOD 300.0: ANIONS** Chloride 12000 600 7/1/2021 7:50:42 AM ma/Ka 200

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 19

CLIENT: Vertex Resources Services, Inc.

Surr: 4-Bromofluorobenzene

EPA METHOD 300.0: ANIONS

Chloride

Analytical ReportLab Order **2106D66**

Date Reported: 7/6/2021

7/1/2021 3:40:00 PM

7/1/2021 8:03:08 AM

Analyst: VP

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH21-02 0-0.5'

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/22/2021 11:30:00 AM

 Lab ID:
 2106D66-005
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: BRM Diesel Range Organics (DRO) ND 9.0 mg/Kg 1 6/30/2021 12:56:24 AM Motor Oil Range Organics (MRO) ND 45 mg/Kg 1 6/30/2021 12:56:24 AM Surr: DNOP 78.8 70-130 %Rec 1 6/30/2021 12:56:24 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: mb Gasoline Range Organics (GRO) ND 7/1/2021 3:40:00 PM 4.8 mg/Kg 1 Surr: BFB 95.8 70-130 %Rec 1 7/1/2021 3:40:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: mb Benzene ND 0.024 mg/Kg 7/1/2021 3:40:00 PM 1 Toluene ND 0.048 mg/Kg 1 7/1/2021 3:40:00 PM Ethylbenzene ND 0.048 mg/Kg 1 7/1/2021 3:40:00 PM Xylenes, Total ND 0.096 mg/Kg 1 7/1/2021 3:40:00 PM

92.2

11000

70-130

590

%Rec

ma/Ka

1

200

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 19

Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH21-03 0-0.5

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/22/2021 1:00:00 PM

 Lab ID:
 2106D66-006
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: BRM Diesel Range Organics (DRO) ND 9.8 mg/Kg 1 6/30/2021 1:20:45 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 6/30/2021 1:20:45 AM Surr: DNOP 84.4 70-130 %Rec 1 6/30/2021 1:20:45 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: mb 7/1/2021 4:00:00 PM Gasoline Range Organics (GRO) ND 4.8 mg/Kg 1 7/1/2021 4:00:00 PM Surr: BFB 96.6 70-130 %Rec 1 **EPA METHOD 8021B: VOLATILES** Analyst: mb Benzene ND 7/1/2021 4:00:00 PM 0.024 mg/Kg 1 Toluene 7/1/2021 4:00:00 PM ND 0.048 mg/Kg 1 Ethylbenzene ND 0.048 mg/Kg 1 7/1/2021 4:00:00 PM Xylenes, Total ND 0.095 mg/Kg 1 7/1/2021 4:00:00 PM 7/1/2021 4:00:00 PM Surr: 4-Bromofluorobenzene 90.9 70-130 %Rec 1 Analyst: VP **EPA METHOD 300.0: ANIONS** Chloride 13000 600 7/1/2021 8:15:33 AM ma/Ka 200

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 6 of 19

CLIENT: Vertex Resources Services, Inc.

Analytical ReportLab Order **2106D66**

Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH21-04 0-0.5'

Project: Helios 6 Fed Com 1H **Collection Date:** 6/22/2021 1:30:00 PM

Lab ID: 2106D66-007 **Matrix:** SOIL **Received Date:** 6/25/2021 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: SB
Diesel Range Organics (DRO)	28	9.7	mg/Kg	1	7/2/2021 11:52:35 AM
Motor Oil Range Organics (MRO)	98	48	mg/Kg	1	7/2/2021 11:52:35 AM
Surr: DNOP	105	70-130	%Rec	1	7/2/2021 11:52:35 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/1/2021 5:00:00 PM
Surr: BFB	94.8	70-130	%Rec	1	7/1/2021 5:00:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: mb
Benzene	ND	0.024	mg/Kg	1	7/1/2021 5:00:00 PM
Toluene	ND	0.048	mg/Kg	1	7/1/2021 5:00:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	7/1/2021 5:00:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	7/1/2021 5:00:00 PM
Surr: 4-Bromofluorobenzene	90.6	70-130	%Rec	1	7/1/2021 5:00:00 PM
EPA METHOD 300.0: ANIONS					Analyst: VP
Chloride	18000	1500	mg/Kg	500	7/1/2021 8:27:57 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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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Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH21-05

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/23/2021 9:00:00 AM

 Lab ID:
 2106D66-008
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/30/2021 2:09:21 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/30/2021 2:09:21 AM
Surr: DNOP	60.6	70-130	S	%Rec	1	6/30/2021 2:09:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/1/2021 5:20:00 PM
Surr: BFB	95.5	70-130		%Rec	1	7/1/2021 5:20:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 5:20:00 PM
Toluene	ND	0.048		mg/Kg	1	7/1/2021 5:20:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	7/1/2021 5:20:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	7/1/2021 5:20:00 PM
Surr: 4-Bromofluorobenzene	90.1	70-130		%Rec	1	7/1/2021 5:20:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	7/1/2021 5:00:25 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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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Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH21-06

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/23/2021 9:30:00 AM

 Lab ID:
 2106D66-009
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/30/2021 2:33:54 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/30/2021 2:33:54 AM
Surr: DNOP	65.9	70-130	S	%Rec	1	6/30/2021 2:33:54 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/1/2021 5:40:00 PM
Surr: BFB	86.2	70-130		%Rec	1	7/1/2021 5:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 5:40:00 PM
Toluene	ND	0.048		mg/Kg	1	7/1/2021 5:40:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	7/1/2021 5:40:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	7/1/2021 5:40:00 PM
Surr: 4-Bromofluorobenzene	87.9	70-130		%Rec	1	7/1/2021 5:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	7/1/2021 4:32:02 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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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Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH21-08

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/23/2021 10:00:00 AM

 Lab ID:
 2106D66-010
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE (ORGANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/30/2021 2:58:10 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/30/2021 2:58:10 AM
Surr: DNOP	68.2	70-130	S	%Rec	1	6/30/2021 2:58:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/1/2021 6:00:00 PM
Surr: BFB	94.9	70-130		%Rec	1	7/1/2021 6:00:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 6:00:00 PM
Toluene	ND	0.047		mg/Kg	1	7/1/2021 6:00:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	7/1/2021 6:00:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	7/1/2021 6:00:00 PM
Surr: 4-Bromofluorobenzene	88.2	70-130		%Rec	1	7/1/2021 6:00:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	7/1/2021 5:09:16 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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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Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH21-09

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/23/2021 10:15:00 AM

 Lab ID:
 2106D66-011
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	6/30/2021 3:22:25 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/30/2021 3:22:25 AM
Surr: DNOP	60.2	70-130	S	%Rec	1	6/30/2021 3:22:25 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/1/2021 6:20:00 PM
Surr: BFB	96.3	70-130		%Rec	1	7/1/2021 6:20:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 6:20:00 PM
Toluene	ND	0.048		mg/Kg	1	7/1/2021 6:20:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	7/1/2021 6:20:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	7/1/2021 6:20:00 PM
Surr: 4-Bromofluorobenzene	88.9	70-130		%Rec	1	7/1/2021 6:20:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	120	60		mg/Kg	20	7/1/2021 6:11:19 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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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Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH21-11

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/23/2021 10:30:00 AM

 Lab ID:
 2106D66-012
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/30/2021 3:46:40 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2021 3:46:40 AM
Surr: DNOP	60.7	70-130	S	%Rec	1	6/30/2021 3:46:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/1/2021 6:40:00 PM
Surr: BFB	96.1	70-130		%Rec	1	7/1/2021 6:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 6:40:00 PM
Toluene	ND	0.048		mg/Kg	1	7/1/2021 6:40:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	7/1/2021 6:40:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	7/1/2021 6:40:00 PM
Surr: 4-Bromofluorobenzene	91.3	70-130		%Rec	1	7/1/2021 6:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	7/1/2021 6:23:43 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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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Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH21-12

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/23/2021 11:00:00 AM

 Lab ID:
 2106D66-013
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	6/30/2021 4:10:52 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/30/2021 4:10:52 AM
Surr: DNOP	68.0	70-130	S	%Rec	1	6/30/2021 4:10:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2021 7:00:00 PM
Surr: BFB	93.8	70-130		%Rec	1	7/1/2021 7:00:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 7:00:00 PM
Toluene	ND	0.049		mg/Kg	1	7/1/2021 7:00:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2021 7:00:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	7/1/2021 7:00:00 PM
Surr: 4-Bromofluorobenzene	90.8	70-130		%Rec	1	7/1/2021 7:00:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	7/1/2021 6:36:08 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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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Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH21-13

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/23/2021 11:30:00 AM

 Lab ID:
 2106D66-014
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS					Analyst: BRM
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	6/30/2021 4:35:15 AM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	6/30/2021 4:35:15 AM
Surr: DNOP	58.9	70-130	S	%Rec	1	6/30/2021 4:35:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/1/2021 7:20:00 PM
Surr: BFB	95.8	70-130		%Rec	1	7/1/2021 7:20:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 7:20:00 PM
Toluene	ND	0.048		mg/Kg	1	7/1/2021 7:20:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	7/1/2021 7:20:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	7/1/2021 7:20:00 PM
Surr: 4-Bromofluorobenzene	90.3	70-130		%Rec	1	7/1/2021 7:20:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	7/1/2021 6:48:33 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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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Date Reported: 7/6/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH21-14

 Project:
 Helios 6 Fed Com 1H
 Collection Date: 6/23/2021 11:45:00 AM

 Lab ID:
 2106D66-015
 Matrix: SOIL
 Received Date: 6/25/2021 7:30:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/30/2021 4:59:21 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2021 4:59:21 AM
Surr: DNOP	61.5	70-130	S	%Rec	1	6/30/2021 4:59:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/1/2021 7:40:00 PM
Surr: BFB	98.2	70-130		%Rec	1	7/1/2021 7:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: mb
Benzene	ND	0.024		mg/Kg	1	7/1/2021 7:40:00 PM
Toluene	ND	0.048		mg/Kg	1	7/1/2021 7:40:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	7/1/2021 7:40:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	7/1/2021 7:40:00 PM
Surr: 4-Bromofluorobenzene	90.9	70-130		%Rec	1	7/1/2021 7:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	330	60		mg/Kg	20	7/1/2021 7:00:58 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

2106D66 06-Jul-21

WO#:

Client: Vertex Resources Services, Inc.

Project: Helios 6 Fed Com 1H

Sample ID: MB-61035 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 61035 RunNo: 79492

Prep Date: 6/30/2021 Analysis Date: 6/30/2021 SeqNo: 2794639 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-61035 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 61035 RunNo: 79492

Prep Date: 6/30/2021 Analysis Date: 6/30/2021 SeqNo: 2794640 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 96.6 90 110

Sample ID: MB-61040 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 61040 RunNo: 79497

Prep Date: 6/30/2021 Analysis Date: 7/1/2021 SeqNo: 2796246 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-61040 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 61040 RunNo: 79497

Prep Date: 6/30/2021 Analysis Date: 7/1/2021 SeqNo: 2796247 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 95.8 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2106D66**

06-Jul-21

Client: Vertex Resources Services, Inc.

Project: Helios 6 Fed Com 1H

Sample ID: LCS-60965 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS Batch ID: 60965 RunNo: 79472

Prep Date: 6/28/2021 Analysis Date: 6/29/2021 SeqNo: 2793936 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO) 44 10 50.00 0 87.9 68.9 141

 Diesel Range Organics (DRO)
 44
 10
 50.00
 0
 87.9
 68.9
 141

 Surr: DNOP
 3.6
 5.000
 72.5
 70
 130

Sample ID: MB-60965 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 60965 RunNo: 79472

Prep Date: 6/28/2021 Analysis Date: 6/29/2021 SeqNo: 2793938 Units: mg/Kg

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

Diesel Range Organics (DRO) ND 10

Motor Oil Range Organics (MRO) ND 50

Surr: DNOP 7.7 10.00 77.0 70 130

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative 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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OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

)#: 2106D66 06-Jul-21

WO#:

Client: Vertex Resources Services, Inc.

Project: Helios 6 Fed Com 1H

Sample ID: mb-60961 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: **PBS** Batch ID: **60961** RunNo: **79532**

Prep Date: 6/28/2021 Analysis Date: 7/1/2021 SeqNo: 2796799 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 920 1000 92.3 70 130

Sample ID: Ics-60961 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 60961 RunNo: 79532

Prep Date: 6/28/2021 Analysis Date: 7/1/2021 SeqNo: 2796801 Units: mg/Kg

RPDLimit Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD Qual Gasoline Range Organics (GRO) 26 5.0 25.00 0 104 78.6 131

Surr: BFB 1100 1000 108 70 130

Sample ID: mb-60981 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 60981 RunNo: 79563

Prep Date: 6/28/2021 Analysis Date: 7/2/2021 SeqNo: 2798482 Units: %Rec

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

Surr: BFB 970 1000 96.7 70 130

Sample ID: Ics-60981 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 60981 RunNo: 79563

Prep Date: 6/28/2021 Analysis Date: 7/2/2021 SegNo: 2798484 Units: %Rec

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

Surr: BFB 1100 1000 114 70 130

Qualifiers:

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

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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2106D66** *06-Jul-21*

Client: Vertex Resources Services, Inc.

Project: Helios 6 Fed Com 1H

Sample ID: mb-60961 SampType: MBLK		Tes								
Client ID: PBS	Batch ID: 60961		RunNo: 79532							
Prep Date: 6/28/2021	Analysis D	Date: 7/	1/2021	SeqNo: 2796853			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.1	70	130			

Sample ID: Ics-60961	SampType: LCS TestCode: EPA Method 8021B: Volatiles									
Client ID: LCSS	Batcl	h ID: 60	961	F	RunNo: 79532					
Prep Date: 6/28/2021	Analysis D	Date: 7/	1/2021	SeqNo: 2796855 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.5	80	120			
Toluene	0.99	0.050	1.000	0	98.6	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		93.2	70	130			

Sample ID: mb-60981	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	ID: 60	981	F	RunNo: 7	9563				
Prep Date: 6/28/2021	e: 6/28/2021 Analysis Date: 7/2/2021			SeqNo: 2798540 Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		92.6	70	130			

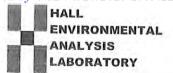
Sample ID: Ics-60981	SampType: LCS	TestCode:	TestCode: EPA Method 8021B: Volatiles					
Client ID: LCSS	Batch ID: 60981	RunNo:	79563					
Prep Date: 6/28/2021	Analysis Date: 7/2/202	21 SeqNo:	2798542 Units: %I	Rec				
Analyte	Result PQL SPI	K value SPK Ref Val %RE	C LowLimit HighLimi	t %RPD	RPDLimit	Qual		
Surr: 4-Bromofluorobenzene	0.93	1 000 92	5 70 130)				

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- 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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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:	Vertex Resources Services, Inc.	Work Order Num	ber: 210	6D66		RcptNo: 1
Received By:	Juan Rojas	6/25/2021 7:30:00	AM		Glaving	
Completed By:	Cheyenne Cason	6/25/2021 9:37:57	AM		Charles	
Reviewed By:	DAD 6.25 -				Christian	
Chain of Cus	stody					
1. Is Chain of C	ustody complete?		Yes	~	No 🗌	Not Present
2. How was the	sample delivered?		Cou	rier		
Log In						
The state of the s	npt made to cool the sample	s?	Yes	V	No 🗌	NA 🗆
4. Were all samp	ples received at a temperatu	ire of >0° C to 6.0°C	Yes		No 🗸	NA 🗆
5. Sample(s) in	proper container(s)?		Yes	Not Fi ✓	No 🗌	
6. Sufficient sam	ple volume for indicated tes	t(s)?	Yes	V	No 🗌	
7. Are samples (except VOA and ONG) prop	erly preserved?	Yes	~	No 🗌	
8. Was preserva	tive added to bottles?		Yes		No 🗸	NA 🗆
9. Received at le	ast 1 vial with headspace <	1/4" for AQ VOA?	Yes		No 🗌	NA 🗸
10. Were any san	nple containers received bro	ken?	Yes		No 🗸	
11. Does paperwo	ork match bottle labels?		Yes	~	No 🗆	# of preserved bottles checked for pH:
	ancies on chain of custody)					(<2 or 12 unless noted)
	correctly identified on Chain	of Custody?		V	No 🗌	Adjusted?
	analyses were requested? ng times able to be met?		Yes	V	No 🗌	21/11/20 1 20 21
	istomer for authorization.)		Yes	V	No 📙	Checked by: T.C. 6.25.2
Special Handli	ing (if applicable)					
15. Was client no	tified of all discrepancies wi	th this order?	Yes		No 🗌	NA 🗹
Person	Notified:	Date:		_		
By Who	m:	Via:	□ еМа	ail 🔲	Phone Fax	In Person
Regardi						
Client In	structions:					
16. Additional ren	narks:					
17. <u>Cooler Inforr</u> Cooler No	mation Temp ⁰C Condition -0.1 Good	Seal Intact Seal No	Seal Da	ate	Signed By	

	Vortex	Chain-of-Custody Record $\psi = \sqrt{2 / e^{-\chi}}$	cord	Turn-Around Time:	Time:	5 0AY			HALL	LE	IVI	HALL ENVIRONMENTAL	ENVIRONMENTAL VSTS I ABOBATOBY
	Mailing Address: $$	FILE		Project Name:	Fed	Com 1H	1	www.hč	www.	hallenvi	ronme	www.hallenvironmental.com	
				Project #: 21E	1	00580-003	Tel.	. 505-	505-345-3975	75	ax 50	Eax 505-345-4107	2
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EDD (Type)				# of Coolers:	-				01	_	5.111		
				Cooler Temp(Including CF):((including CF): U. I	-0 = -0.1 (°C)	TM &		68 yd				
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0		BH21-02	0-0,5			82							
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				COCICI I GITIP (Including CF).	including CF) C	10710		Pest		_	/O/)		
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Hall Environmental Analysis Laboratory

TEL: 505-345-3975 FAX: 505-345-4107

Website: clients.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109



July 08, 2021

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

FAX

RE: Helios 6 OrderNo.: 2107069

Dear Wesley Mathews:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/2/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andy

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 7/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BH21-01 11'

 Project:
 Helios 6
 Collection Date: 6/30/2021 9:00:00 AM

 Lab ID:
 2107069-001
 Matrix: SOIL
 Received Date: 7/2/2021 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	7/6/2021 1:10:04 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	7/6/2021 1:10:04 PM
Surr: DNOP	102	70-130	%Rec	1	7/6/2021 1:10:04 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/6/2021 9:56:00 PM
Surr: BFB	98.1	70-130	%Rec	1	7/6/2021 9:56:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: mb
Benzene	ND	0.024	mg/Kg	1	7/6/2021 9:56:00 PM
Toluene	ND	0.049	mg/Kg	1	7/6/2021 9:56:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	7/6/2021 9:56:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	7/6/2021 9:56:00 PM
Surr: 4-Bromofluorobenzene	90.3	70-130	%Rec	1	7/6/2021 9:56:00 PM
EPA METHOD 300.0: ANIONS					Analyst: VP
Chloride	11000	600	mg/Kg	200	7/7/2021 2:22:37 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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 8

Date Reported: 7/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BH21-02 12'

 Project:
 Helios 6
 Collection Date: 6/30/2021 10:00:00 AM

 Lab ID:
 2107069-002
 Matrix: SOIL
 Received Date: 7/2/2021 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	7/6/2021 1:22:22 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	7/6/2021 1:22:22 PM
Surr: DNOP	97.7	70-130	%Rec	1	7/6/2021 1:22:22 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: mb
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/6/2021 10:56:00 PM
Surr: BFB	99.3	70-130	%Rec	1	7/6/2021 10:56:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: mb
Benzene	ND	0.024	mg/Kg	1	7/6/2021 10:56:00 PM
Toluene	ND	0.049	mg/Kg	1	7/6/2021 10:56:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	7/6/2021 10:56:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	7/6/2021 10:56:00 PM
Surr: 4-Bromofluorobenzene	93.5	70-130	%Rec	1	7/6/2021 10:56:00 PM
EPA METHOD 300.0: ANIONS					Analyst: VP
Chloride	150	60	mg/Kg	20	7/7/2021 2:22:52 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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 2 of 8

Date Reported: 7/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BH21-03 12'

 Project:
 Helios 6
 Collection Date: 6/30/2021 11:00:00 AM

 Lab ID:
 2107069-003
 Matrix: SOIL
 Received Date: 7/2/2021 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	8.9	mg/Kg	1	7/6/2021 1:34:32 PM
Motor Oil Range Organics (MRO)	ND	44	mg/Kg	1	7/6/2021 1:34:32 PM
Surr: DNOP	101	70-130	%Rec	1	7/6/2021 1:34:32 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: mb
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/6/2021 11:16:00 PM
Surr: BFB	100	70-130	%Rec	1	7/6/2021 11:16:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: mb
Benzene	ND	0.024	mg/Kg	1	7/6/2021 11:16:00 PM
Toluene	ND	0.048	mg/Kg	1	7/6/2021 11:16:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	7/6/2021 11:16:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	7/6/2021 11:16:00 PM
Surr: 4-Bromofluorobenzene	95.9	70-130	%Rec	1	7/6/2021 11:16:00 PM
EPA METHOD 300.0: ANIONS					Analyst: VP
Chloride	170	61	mg/Kg	20	7/7/2021 2:35:16 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

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

QL 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 8

Date Reported: 7/8/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BH21-04 15'

 Project:
 Helios 6
 Collection Date: 6/30/2021 12:00:00 PM

 Lab ID:
 2107069-004
 Matrix: SOIL
 Received Date: 7/2/2021 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.0	mg/Kg	1	7/6/2021 1:46:37 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	7/6/2021 1:46:37 PM
Surr: DNOP	101	70-130	%Rec	1	7/6/2021 1:46:37 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: mb
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	7/6/2021 11:36:00 PM
Surr: BFB	104	70-130	%Rec	1	7/6/2021 11:36:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: mb
Benzene	ND	0.025	mg/Kg	1	7/6/2021 11:36:00 PM
Toluene	ND	0.050	mg/Kg	1	7/6/2021 11:36:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	7/6/2021 11:36:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	7/6/2021 11:36:00 PM
Surr: 4-Bromofluorobenzene	98.2	70-130	%Rec	1	7/6/2021 11:36:00 PM
EPA METHOD 300.0: ANIONS					Analyst: VP
Chloride	6700	300	mg/Kg	100	7/7/2021 2:35:01 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- 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 8

Hall Environmental Analysis Laboratory, Inc.

WO#: **2107069**

08-Jul-21

Client: Devon Energy
Project: Helios 6

Sample ID: MB-61148 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 61148 RunNo: 79587

Prep Date: 7/6/2021 Analysis Date: 7/6/2021 SeqNo: 2799455 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-61148 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 61148 RunNo: 79587

Prep Date: 7/6/2021 Analysis Date: 7/6/2021 SeqNo: 2799456 Units: mg/Kg

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

Chloride 15 1.5 15.00 0 97.8 90 110

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative 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 8

Hall Environmental Analysis Laboratory, Inc.

WO#: 2107069

08-Jul-21

Client: Devon Energy **Project:** Helios 6

Sample ID: MB-61118 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 61118 RunNo: 79594 Prep Date: 7/3/2021 Analysis Date: 7/6/2021 SeqNo: 2799172 Units: mg/Kg Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Result Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50 Surr: DNOP 10 10.00 101 70 130

Sample ID: LCS-61118 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 61118 RunNo: 79594

Prep Date: 7/3/2021 Analysis Date: 7/6/2021 SeqNo: 2799173 Units: mg/Kg

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

Diesel Range Organics (DRO) 47 10 50.00 94.7 68.9 141 Surr: DNOP 5.2 5.000 104 70 130

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix

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

Page 6 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#: **2107069**

08-Jul-21

Client: Devon Energy
Project: Helios 6

Sample ID: mb-61115 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 61115 RunNo: 79580

Prep Date: 7/2/2021 Analysis Date: 7/6/2021 SeqNo: 2799569 Units: mg/Kg

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

Gasoline Range Organics (GRO) ND 5.0

Surr: BFB 1000 1000 100 70 130

Sample ID: Ics-61115 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 61115 RunNo: 79580

1100

Prep Date: 7/2/2021 Analysis Date: 7/6/2021 SeqNo: 2799571 Units: mg/Kg

1000

Qual Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Gasoline Range Organics (GRO) 24 5.0 25.00 0 95.5 78.6 131

107

70

130

Qualifiers:

Surr: BFB

- 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 Quantitative 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 7 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#: 2107069 08-Jul-21

Client: Devon Energy **Project:** Helios 6

Sample ID: mb-61115 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 61115 RunNo: 79580

Prep Date: 7/2/2021 Analysis Date: 7/6/2021 SeqNo: 2799582 Units: mq/Kq

PQL SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result LowLimit HighLimit Qual Benzene ND 0.025

Toluene ND 0.050 0.050 Ethylbenzene ND Xylenes, Total ND 0.10

Surr: 4-Bromofluorobenzene 0.95 1.000 94.5 70 130

Sample ID: Ics-61115 SampType: LCS TestCode: EPA Method 8021B: Volatiles

Client ID: LCSS Batch ID: 61115 RunNo: 79580

Analysis Date: 7/6/2021 SeqNo: 2799584 Prep Date: 7/2/2021 Units: mg/Kg

PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 1.000 0.99 0.025 0 99.3 80 120 Benzene Toluene 0.99 0.050 1.000 0 99.0 80 120 0 100 80 Ethylbenzene 1.0 0.050 1.000 120 0 100 Xylenes, Total 3.0 0.10 3.000 80 120 Surr: 4-Bromofluorobenzene 0.92 1.000 92.2 70 130

Sample ID: 2107069-001ams SampType: MS TestCode: EPA Method 8021B: Volatiles

Client ID: BH21-01 11' Batch ID: 61115 RunNo: 79580

Prep Date: 7/2/2021 Analysis Date: 7/6/2021 SeqNo: 2799586 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 97.4 80 0.92 0.024 0.9497 120 Benzene O Toluene 0.93 0.047 0.9497 0 97.9 80 120 120 0 100 80 Ethylbenzene 0.95 0.047 0.9497 Xylenes, Total 2.9 0.095 2.849 0 101 80 120 Surr: 4-Bromofluorobenzene 93.5 0.89 0.9497 70 130

TestCode: EPA Method 8021B: Volatiles Sample ID: 2107069-001amsd SampType: MSD

BH21-01 11' Batch ID: 61115 Client ID: RunNo: 79580

Prep Date: 7/2/2021	Analysis D	Date: 7/	6/2021	S	SeqNo: 2	799588	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	0.9921	0	98.6	80	120	5.62	20	
Toluene	0.98	0.050	0.9921	0	98.4	80	120	4.81	20	
Ethylbenzene	1.0	0.050	0.9921	0	102	80	120	6.46	20	
Xylenes, Total	3.1	0.099	2.976	0	104	80	120	6.56	20	
Surr: 4-Bromofluorobenzene	0.95		0.9921		96.2	70	130	0	0	

Qualifiers:

Value exceeds Maximum Contaminant Level

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Н

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

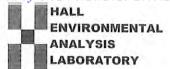
Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Limit Page 8 of 8



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: Devon Energy Work Order Number: 2107069 RcptNo: 1 Received By: Juan Rojas 7/2/2021 7:30:00 AM Completed By: Cheyenne Cason 7/2/2021 8:21:01 AM Reviewed By: JR7/2/21 Chain of Custody 1. Is Chain of Custody complete? No 🗌 Yes 🗸 Not Present 2 How was the sample delivered? Courier Log In 3. Was an attempt made to cool the samples? No 🗌 NA 🗌 4. Were all samples received at a temperature of >0° C to 6.0°C Yes V No _ NA 🗌 Sample(s) in proper container(s)? Yes V No 6. Sufficient sample volume for indicated test(s)? No 🗌 7. Are samples (except VOA and ONG) properly preserved? No _ 8. Was preservative added to bottles? No V Yes NA 🗌 9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes NA V No 🗌 10. Were any sample containers received broken? No 🗸 Yes -# of preserved bottles checked 11. Does paperwork match bottle labels? Yes 🗸 No 🗌 for pH: (Note discrepancies on chain of custody) (<2 or >12 unless noted) Adjusted? 12. Are matrices correctly identified on Chain of Custody? No 🗌 Yes V 13. Is it clear what analyses were requested? Yes V No 14. Were all holding times able to be met? No 🗌 Yes V (If no, notify customer for authorization.) Special Handling (if applicable) Yes 15. Was client notified of all discrepancies with this order? No 🗌 NA V Person Notified: Date: By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 16. Additional remarks: 17. Cooler Information Cooler No Condition | Seal Intact Temp °C Seal No Seal Date Signed By 1.6 Good



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

November 17, 2022

Chance Dixon
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040

FAX:

RE: Hackberry 6 Fed 1 Well Pad OrderNo.: 2211297

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 18 sample(s) on 11/5/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-01 0'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:00:00 AM

 Lab ID:
 2211297-001
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/9/2022 10:07:03 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	11/9/2022 10:07:03 PM
Surr: DNOP	96.4	21-129	%Rec	1	11/9/2022 10:07:03 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	11/9/2022 11:20:44 PM
Surr: BFB	88.6	37.7-212	%Rec	1	11/9/2022 11:20:44 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	11/9/2022 11:20:44 PM
Toluene	ND	0.049	mg/Kg	1	11/9/2022 11:20:44 PM
Ethylbenzene	ND	0.049	mg/Kg	1	11/9/2022 11:20:44 PM
Xylenes, Total	ND	0.098	mg/Kg	1	11/9/2022 11:20:44 PM
Surr: 4-Bromofluorobenzene	93.7	70-130	%Rec	1	11/9/2022 11:20:44 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	11/11/2022 10:01:21 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 25

Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH22-01 2'

Hackberry 6 Fed 1 Well Pad **Project: Collection Date:** 11/3/2022 9:05:00 AM 2211297-002 Lab ID: Matrix: SOIL Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	14	mg/Kg	1	11/9/2022 10:17:35 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	11/9/2022 10:17:35 PM
Surr: DNOP	59.7	21-129	%Rec	1	11/9/2022 10:17:35 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	11/9/2022 11:44:15 PM
Surr: BFB	90.1	37.7-212	%Rec	1	11/9/2022 11:44:15 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	11/9/2022 11:44:15 PM
Toluene	ND	0.048	mg/Kg	1	11/9/2022 11:44:15 PM
Ethylbenzene	ND	0.048	mg/Kg	1	11/9/2022 11:44:15 PM
Xylenes, Total	ND	0.095	mg/Kg	1	11/9/2022 11:44:15 PM
Surr: 4-Bromofluorobenzene	94.5	70-130	%Rec	1	11/9/2022 11:44:15 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	11/11/2022 10:13:46 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value Ε
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- RL

Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-02 0'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:10:00 AM

 Lab ID:
 2211297-003
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/9/2022 10:28:06 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	11/9/2022 10:28:06 PM
Surr: DNOP	71.5	21-129	%Rec	1	11/9/2022 10:28:06 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	11/10/2022 12:07:40 AM
Surr: BFB	88.9	37.7-212	%Rec	1	11/10/2022 12:07:40 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	11/10/2022 12:07:40 AM
Toluene	ND	0.049	mg/Kg	1	11/10/2022 12:07:40 AM
Ethylbenzene	ND	0.049	mg/Kg	1	11/10/2022 12:07:40 AM
Xylenes, Total	ND	0.098	mg/Kg	1	11/10/2022 12:07:40 AM
Surr: 4-Bromofluorobenzene	93.1	70-130	%Rec	1	11/10/2022 12:07:40 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	11/11/2022 10:26:10 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-02 2'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:15:00 AM

 Lab ID:
 2211297-004
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	Analyst: DGH				
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/9/2022 10:38:36 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	11/9/2022 10:38:36 PM
Surr: DNOP	68.3	21-129	%Rec	1	11/9/2022 10:38:36 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	11/10/2022 12:31:09 AM
Surr: BFB	86.6	37.7-212	%Rec	1	11/10/2022 12:31:09 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	11/10/2022 12:31:09 AM
Toluene	ND	0.050	mg/Kg	1	11/10/2022 12:31:09 AM
Ethylbenzene	ND	0.050	mg/Kg	1	11/10/2022 12:31:09 AM
Xylenes, Total	ND	0.099	mg/Kg	1	11/10/2022 12:31:09 AM
Surr: 4-Bromofluorobenzene	91.5	70-130	%Rec	1	11/10/2022 12:31:09 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	11/14/2022 12:29:49 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-03 0'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:20:00 AM

 Lab ID:
 2211297-005
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OF	Analyst: DGH				
Diesel Range Organics (DRO)	ND	14	mg/Kg	1	11/9/2022 10:49:06 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	11/9/2022 10:49:06 PM
Surr: DNOP	75.6	21-129	%Rec	1	11/9/2022 10:49:06 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	11/10/2022 12:54:34 AM
Surr: BFB	88.4	37.7-212	%Rec	1	11/10/2022 12:54:34 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	11/10/2022 12:54:34 AM
Toluene	ND	0.048	mg/Kg	1	11/10/2022 12:54:34 AM
Ethylbenzene	ND	0.048	mg/Kg	1	11/10/2022 12:54:34 AM
Xylenes, Total	ND	0.097	mg/Kg	1	11/10/2022 12:54:34 AM
Surr: 4-Bromofluorobenzene	92.7	70-130	%Rec	1	11/10/2022 12:54:34 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	11/14/2022 1:07:04 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

ple pH Not In Range
Orting Limit Page 5 of 25

Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-03 2'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:25:00 AM

 Lab ID:
 2211297-006
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	Analyst: DGH				
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/9/2022 10:59:36 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	11/9/2022 10:59:36 PM
Surr: DNOP	72.6	21-129	%Rec	1	11/9/2022 10:59:36 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	11/10/2022 1:18:03 AM
Surr: BFB	87.0	37.7-212	%Rec	1	11/10/2022 1:18:03 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	11/10/2022 1:18:03 AM
Toluene	ND	0.050	mg/Kg	1	11/10/2022 1:18:03 AM
Ethylbenzene	ND	0.050	mg/Kg	1	11/10/2022 1:18:03 AM
Xylenes, Total	ND	0.10	mg/Kg	1	11/10/2022 1:18:03 AM
Surr: 4-Bromofluorobenzene	92.2	70-130	%Rec	1	11/10/2022 1:18:03 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	11/14/2022 1:19:29 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH22-04 0'

Hackberry 6 Fed 1 Well Pad **Project: Collection Date:** 11/3/2022 9:30:00 AM 2211297-007 Received Date: 11/5/2022 2:10:00 PM Lab ID: Matrix: SOIL

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: DGH				
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/9/2022 11:10:08 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	11/9/2022 11:10:08 PM
Surr: DNOP	66.0	21-129	%Rec	1	11/9/2022 11:10:08 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	11/10/2022 1:41:29 AM
Surr: BFB	86.3	37.7-212	%Rec	1	11/10/2022 1:41:29 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	11/10/2022 1:41:29 AM
Toluene	ND	0.050	mg/Kg	1	11/10/2022 1:41:29 AM
Ethylbenzene	ND	0.050	mg/Kg	1	11/10/2022 1:41:29 AM
Xylenes, Total	ND	0.099	mg/Kg	1	11/10/2022 1:41:29 AM
Surr: 4-Bromofluorobenzene	91.2	70-130	%Rec	1	11/10/2022 1:41:29 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	11/14/2022 1:31:53 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
- Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value Ε
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH22-04 2'

Project: Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:35:00 AM

 Lab ID: 2211297-008
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: DGH				
Diesel Range Organics (DRO)	ND	14	mg/Kg	1	11/9/2022 11:20:40 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	11/9/2022 11:20:40 PM
Surr: DNOP	71.5	21-129	%Rec	1	11/9/2022 11:20:40 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	11/10/2022 2:04:56 AM
Surr: BFB	86.9	37.7-212	%Rec	1	11/10/2022 2:04:56 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	11/10/2022 2:04:56 AM
Toluene	ND	0.050	mg/Kg	1	11/10/2022 2:04:56 AM
Ethylbenzene	ND	0.050	mg/Kg	1	11/10/2022 2:04:56 AM
Xylenes, Total	ND	0.10	mg/Kg	1	11/10/2022 2:04:56 AM
Surr: 4-Bromofluorobenzene	91.3	70-130	%Rec	1	11/10/2022 2:04:56 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	130	60	mg/Kg	20	11/14/2022 1:44:18 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 8 of 25

Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-05 0'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:40:00 AM

 Lab ID:
 2211297-009
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: DGH				
Diesel Range Organics (DRO)	ND	14	mg/Kg	1	11/9/2022 11:31:11 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	11/9/2022 11:31:11 PM
Surr: DNOP	67.8	21-129	%Rec	1	11/9/2022 11:31:11 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	11/10/2022 2:28:22 AM
Surr: BFB	86.9	37.7-212	%Rec	1	11/10/2022 2:28:22 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	11/10/2022 2:28:22 AM
Toluene	ND	0.050	mg/Kg	1	11/10/2022 2:28:22 AM
Ethylbenzene	ND	0.050	mg/Kg	1	11/10/2022 2:28:22 AM
Xylenes, Total	ND	0.099	mg/Kg	1	11/10/2022 2:28:22 AM
Surr: 4-Bromofluorobenzene	91.3	70-130	%Rec	1	11/10/2022 2:28:22 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	11/14/2022 2:46:23 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-05 2'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:45:00 AM

 Lab ID:
 2211297-010
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: DGH				
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/9/2022 11:41:44 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	11/9/2022 11:41:44 PM
Surr: DNOP	75.0	21-129	%Rec	1	11/9/2022 11:41:44 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	11/10/2022 3:15:12 AM
Surr: BFB	87.0	37.7-212	%Rec	1	11/10/2022 3:15:12 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	11/10/2022 3:15:12 AM
Toluene	ND	0.050	mg/Kg	1	11/10/2022 3:15:12 AM
Ethylbenzene	ND	0.050	mg/Kg	1	11/10/2022 3:15:12 AM
Xylenes, Total	ND	0.099	mg/Kg	1	11/10/2022 3:15:12 AM
Surr: 4-Bromofluorobenzene	92.2	70-130	%Rec	1	11/10/2022 3:15:12 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	59	mg/Kg	20	11/14/2022 2:58:48 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-06 0'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:50:00 AM

 Lab ID:
 2211297-011
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: DGH				
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/11/2022 11:40:04 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	11/11/2022 11:40:04 AM
Surr: DNOP	112	21-129	%Rec	1	11/11/2022 11:40:04 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	11/10/2022 3:51:48 PM
Surr: BFB	90.3	37.7-212	%Rec	1	11/10/2022 3:51:48 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	11/10/2022 3:51:48 PM
Toluene	ND	0.048	mg/Kg	1	11/10/2022 3:51:48 PM
Ethylbenzene	ND	0.048	mg/Kg	1	11/10/2022 3:51:48 PM
Xylenes, Total	ND	0.097	mg/Kg	1	11/10/2022 3:51:48 PM
Surr: 4-Bromofluorobenzene	93.6	70-130	%Rec	1	11/10/2022 3:51:48 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	59	mg/Kg	20	11/14/2022 3:11:13 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH22-06 2'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 9:55:00 AM

 Lab ID:
 2211297-012
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: DGH				
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/14/2022 3:01:53 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	11/14/2022 3:01:53 PM
Surr: DNOP	111	21-129	%Rec	1	11/14/2022 3:01:53 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	11/10/2022 5:02:03 PM
Surr: BFB	86.1	37.7-212	%Rec	1	11/10/2022 5:02:03 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.023	mg/Kg	1	11/10/2022 5:02:03 PM
Toluene	ND	0.047	mg/Kg	1	11/10/2022 5:02:03 PM
Ethylbenzene	ND	0.047	mg/Kg	1	11/10/2022 5:02:03 PM
Xylenes, Total	ND	0.093	mg/Kg	1	11/10/2022 5:02:03 PM
Surr: 4-Bromofluorobenzene	90.8	70-130	%Rec	1	11/10/2022 5:02:03 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	11/14/2022 3:23:38 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-07 0'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 10:00:00 AM

 Lab ID:
 2211297-013
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OF		Analyst: DGH			
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/11/2022 1:07:37 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	11/11/2022 1:07:37 PM
Surr: DNOP	100	21-129	%Rec	1	11/11/2022 1:07:37 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	11/10/2022 6:12:51 PM
Surr: BFB	89.8	37.7-212	%Rec	1	11/10/2022 6:12:51 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	11/10/2022 6:12:51 PM
Toluene	ND	0.048	mg/Kg	1	11/10/2022 6:12:51 PM
Ethylbenzene	ND	0.048	mg/Kg	1	11/10/2022 6:12:51 PM
Xylenes, Total	ND	0.097	mg/Kg	1	11/10/2022 6:12:51 PM
Surr: 4-Bromofluorobenzene	93.7	70-130	%Rec	1	11/10/2022 6:12:51 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	9000	300	mg/Kg	100	11/14/2022 3:36:02 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Analytical Report

Lab Order **2211297**Date Reported: **11/17/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH22-07 2'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 10:05:00 AM

 Lab ID:
 2211297-014
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR		Analyst: DGH				
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	11/11/2022 1:18:12 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/11/2022 1:18:12 PM
Surr: DNOP	132	21-129	S	%Rec	1	11/11/2022 1:18:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/10/2022 6:36:23 PM
Surr: BFB	87.8	37.7-212		%Rec	1	11/10/2022 6:36:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/10/2022 6:36:23 PM
Toluene	ND	0.047		mg/Kg	1	11/10/2022 6:36:23 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/10/2022 6:36:23 PM
Xylenes, Total	ND	0.095		mg/Kg	1	11/10/2022 6:36:23 PM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	11/10/2022 6:36:23 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	7000	300		mg/Kg	100	11/14/2022 3:48:26 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-07 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 10:10:00 AM

 Lab ID:
 2211297-015
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: DGH				
Diesel Range Organics (DRO)	14	14	mg/Kg	1	11/14/2022 4:40:12 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	11/14/2022 4:40:12 PM
Surr: DNOP	116	21-129	%Rec	1	11/14/2022 4:40:12 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	11/10/2022 6:59:54 PM
Surr: BFB	88.7	37.7-212	%Rec	1	11/10/2022 6:59:54 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.023	mg/Kg	1	11/10/2022 6:59:54 PM
Toluene	ND	0.046	mg/Kg	1	11/10/2022 6:59:54 PM
Ethylbenzene	ND	0.046	mg/Kg	1	11/10/2022 6:59:54 PM
Xylenes, Total	ND	0.092	mg/Kg	1	11/10/2022 6:59:54 PM
Surr: 4-Bromofluorobenzene	92.2	70-130	%Rec	1	11/10/2022 6:59:54 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	6600	300	mg/Kg	100	11/14/2022 4:00:51 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-08 0'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 10:15:00 AM

 Lab ID:
 2211297-016
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/11/2022 1:39:24 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	11/11/2022 1:39:24 PM
Surr: DNOP	107	21-129	%Rec	1	11/11/2022 1:39:24 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	11/10/2022 7:23:14 PM
Surr: BFB	92.7	37.7-212	%Rec	1	11/10/2022 7:23:14 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	11/10/2022 7:23:14 PM
Toluene	ND	0.048	mg/Kg	1	11/10/2022 7:23:14 PM
Ethylbenzene	ND	0.048	mg/Kg	1	11/10/2022 7:23:14 PM
Xylenes, Total	ND	0.097	mg/Kg	1	11/10/2022 7:23:14 PM
Surr: 4-Bromofluorobenzene	97.3	70-130	%Rec	1	11/10/2022 7:23:14 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	7100	300	mg/Kg	100	11/14/2022 4:13:15 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 11/17/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-08 2'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 10:20:00 AM

 Lab ID:
 2211297-017
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Analyses	Result	RL Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	11/11/2022 1:50:01 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	11/11/2022 1:50:01 PM
Surr: DNOP	105	21-129	%Rec	1	11/11/2022 1:50:01 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	11/10/2022 7:46:49 PM
Surr: BFB	89.0	37.7-212	%Rec	1	11/10/2022 7:46:49 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	11/10/2022 7:46:49 PM
Toluene	ND	0.048	mg/Kg	1	11/10/2022 7:46:49 PM
Ethylbenzene	ND	0.048	mg/Kg	1	11/10/2022 7:46:49 PM
Xylenes, Total	ND	0.095	mg/Kg	1	11/10/2022 7:46:49 PM
Surr: 4-Bromofluorobenzene	92.6	70-130	%Rec	1	11/10/2022 7:46:49 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	5600	300	mg/Kg	100	11/14/2022 4:50:29 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Toluene

Chloride

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

EPA METHOD 300.0: ANIONS

Analytical Report

Lab Order **2211297**Date Reported: **11/17/2022**

11/10/2022 8:10:22 PM

11/10/2022 8:10:22 PM

11/10/2022 8:10:22 PM

11/10/2022 8:10:22 PM

11/14/2022 5:02:54 PM

Analyst: NAI

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-08 4'

mg/Kg

mg/Kg

mg/Kg

%Rec

mg/Kg

1

1

1

1

100

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 11/3/2022 10:25:00 AM

 Lab ID:
 2211297-018
 Matrix: SOIL
 Received Date: 11/5/2022 2:10:00 PM

Result **RL Qual Units** DF **Date Analyzed Analyses** Analyst: **DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Diesel Range Organics (DRO) 41 15 mg/Kg 1 11/14/2022 5:12:12 PM Motor Oil Range Organics (MRO) 110 49 mg/Kg 1 11/14/2022 5:12:12 PM Surr: DNOP 121 21-129 %Rec 1 11/14/2022 5:12:12 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 11/10/2022 8:10:22 PM 4.8 mg/Kg 1 Surr: BFB 88.4 37.7-212 %Rec 1 11/10/2022 8:10:22 PM **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 11/10/2022 8:10:22 PM 0.024 mg/Kg 1

ND

ND

ND

92.7

7300

0.048

0.048

0.097

70-130

300

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2211297** *17-Nov-22*

Client: Vertex Resources Services, Inc.
Project: Hackberry 6 Fed 1 Well Pad

Sample ID: MB-71445 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 71445 RunNo: 92527

Prep Date: 11/11/2022 Analysis Date: 11/11/2022 SeqNo: 3328186 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-71445 SampType: Ics TestCode: EPA Method 300.0: Anions Client ID: LCSS Batch ID: 71445 RunNo: 92527 Prep Date: 11/11/2022 Analysis Date: 11/11/2022 SeqNo: 3328187 Units: mg/Kg **RPDLimit** Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD Qual

95.6

110

Sample ID: MB-71469 TestCode: EPA Method 300.0: Anions SampType: mblk Client ID: **PBS** Batch ID: 71469 RunNo: 92581 Prep Date: Analysis Date: 11/14/2022 Units: mg/Kg 11/14/2022 SeqNo: 3329299 Analyte Result POI SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual LowLimit

Sample ID: LCS-71469 SampType: Ics TestCode: EPA Method 300.0: Anions

15.00

Client ID: LCSS Batch ID: 71469 RunNo: 92581

1.5

14

Prep Date: 11/14/2022 Analysis Date: 11/14/2022 SeqNo: 3329300 Units: mg/Kg

Result **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte LowLimit Chloride 15 1.5 15.00 n 96.7 90 110

Qualifiers:

Chloride

Chloride

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

2211297 17-Nov-22

WO#:

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Project: Hackber	ry 6 Fed 1 Well	Pad							
Sample ID: LCS-71362	SampType:	LCS	Tes	tCode: EP	A Method	8015M/D: Dies	sel Range	Organics	
Client ID: LCSS	Batch ID:	71362	F	RunNo: 92	2430				
Prep Date: 11/8/2022	Analysis Date:	11/9/2022	5	SeqNo: 33	324031	Units: mg/Kg	9		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15 50.00	0	90.7	64.4	127			
Surr: DNOP	5.3	5.000		106	21	129			
Sample ID: MB-71362	SampType:	MBLK	Tes	tCode: EP	A Method	8015M/D: Dies	sel Range	Organics	
Client ID: PBS	Batch ID:	71362	F	RunNo: 92	2430				
Prep Date: 11/8/2022	Analysis Date:	11/9/2022	5	SeqNo: 33	324033	Units: mg/Kg	9		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15							
Motor Oil Range Organics (MRO)		50							
Surr: DNOP	9.5	10.00		95.2	21	129			
Sample ID: LCS-71411	SampType:	LCS	Tes	tCode: EP	A Method	8015M/D: Dies	sel Range	Organics	
Client ID: LCSS	Batch ID:	71411	F	RunNo: 92	2519				
Prep Date: 11/10/2022	Analysis Date:	11/11/2022	5	SeqNo: 33	325799	Units: mg/Kg	9		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15 50.00	0	90.1	64.4	127			
Surr: DNOP	5.6	5.000		111	21	129			
Sample ID: MB-71411	SampType:	MBLK	Tes	tCode: EP	A Method	8015M/D: Dies	sel Range	Organics	
Client ID: PBS	Batch ID:	71411	F	RunNo: 92	2519				
Prep Date: 11/10/2022	Analysis Date:	11/11/2022	9	SeqNo: 33	325801	Units: mg/Kg	9		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15							
Motor Oil Range Organics (MRO)	ND :	50							
Surr: DNOP	11	10.00		108	21	129			
Sample ID: LCS-71413	SampType:	LCS	Tes	tCode: EP	A Method	8015M/D: Dies	sel Range	Organics	
Client ID: LCSS	Batch ID:	71413	F	RunNo: 92	2519				
Prep Date: 11/10/2022	Analysis Date:	11/11/2022	5	SeqNo: 33	327399	Units: %Rec			
Analyte									
Allalyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

2211297 17-Nov-22

WO#:

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: MB-71413	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 71413	RunNo: 92519
Prep Date: 11/10/2022	Analysis Date: 11/11/2022	SeqNo: 3327400 Units: %Rec
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	12 10.00	117 21 129
Sample ID: LCS-71461	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 71461	RunNo: 92557
Prep Date: 11/14/2022	Analysis Date: 11/14/2022	SeqNo: 3327869 Units: %Rec

Client ID: LCSS	Batch ID:	71461	RunNo: 9	2557					
Prep Date: 11/14/2022	Analysis Date:	11/14/2022	SeqNo: 3	327869	Units: %Rec				
Analyte	Result PC	QL SPK value	SPK Ref Val %REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	5.0	5.000	101	21	129				

Sample ID: MB-71461	SampTy	pe: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Dies	sel Range	Organics		
Client ID: PBS	Batch	ID: 71 4	461	F	RunNo: 92	2557					
Prep Date: 11/14/2022	Analysis Da	ate: 11	/14/2022	9	SeqNo: 33	327870	Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	9.3		10.00		92.6	21	129				

Sample ID: 2211297-012AMS	SampT	ype: MS	3	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: BH22-06 2'	Batch	n ID: 71 4	111	RunNo: 92557						
Prep Date: 11/10/2022 Analysis Date: 11/14/2022			SeqNo: 3329449			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	66	15	49.60	0	133	36.1	154			
Surr: DNOP	7.4		4.960		148	21	129			S

Sample ID: 2211297-012AMSD	SampT	ype: MS	SD .	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: BH22-06 2' Batch ID: 71411				F	RunNo: 92557						
Prep Date: 11/10/2022	Analysis D	ate: 11	/14/2022	5	SeqNo: 33	329450	Units: mg/K	g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	50	15	50.10	0	99.7	36.1	154	27.4	33.9		
Surr: DNOP	5.9		5.010		117	21	129	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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 2211297

17-Nov-22

Client: Vertex Resources Services, Inc. **Project:** Hackberry 6 Fed 1 Well Pad

Sample ID: mb-71353 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 71353 RunNo: 92451

Prep Date: 11/7/2022 Analysis Date: 11/9/2022 SeqNo: 3322711 Units: mq/Kq

SPK Ref Val %RPD **RPDLimit** Analyte Result **PQL** SPK value %REC LowLimit HighLimit Qual ND 5.0

Gasoline Range Organics (GRO)

Surr: BFB 930 1000 93.0 37.7 212

Sample ID: Ics-71353 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 71353 RunNo: 92451

Analysis Date: 11/9/2022 Prep Date: 11/7/2022 SeqNo: 3322712 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC I owl imit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 25.00 94.8 72.3 5.0 Surr: BFB 1900 1000 190 37.7 212

Sample ID: mb-71393 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: Batch ID: 71393 RunNo: 92479 Prep Date: 11/9/2022 Analysis Date: 11/10/2022 SeqNo: 3327238 Units: mg/Kg SPK value SPK Ref Val %RPD **RPDLimit** Analyte Result PQI %REC LowLimit HighLimit Qual Gasoline Range Organics (GRO) ND 5.0

Surr: BFB 900 1000 90.0 37.7 212

Sample ID: LCS-71393 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Batch ID: 71393 Client ID: LCSS RunNo: 92479 Prep Date: 11/9/2022 Analysis Date: 11/10/2022 SeqNo: 3327239 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 22 89.7 5.0 25.00 72.3 137 Surr: BFB 1800 1000 184 37.7 212

Sample ID: 2211297-011ams SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: BH22-06 0' Batch ID: 71393 RunNo: 92479 Prep Date: Analysis Date: 11/10/2022 SeqNo: 3327241 11/9/2022 Units: mg/Kg Result POI SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 24 4.9 24.49 0 97.3 70 130

TestCode: EPA Method 8015D: Gasoline Range Sample ID: 2211297-011amsd SampType: MSD

979.4

Client ID: BH22-06 0' Batch ID: 71393 RunNo: 92479

1900

Prep Date: 11/9/2022 Analysis Date: 11/10/2022 SeqNo: 3327242 Units: mg/Kg

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

Qualifiers:

Surr: BFB

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank

195

37.7

212

- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

2211297

Qual

WO#:

17-Nov-22

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

 Sample ID:
 2211297-011amsd
 SampType:
 MSD
 TestCode:
 EPA Method 8015D:
 Gasoline Range

 Client ID:
 BH22-06 0'
 Batch ID:
 71393
 RunNo:
 92479

 Prep Date:
 11/9/2022
 Analysis Date:
 11/10/2022
 SeqNo:
 3327242
 Units:
 mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Gasoline Range Organics (GRO) 25 5.0 24.83 0 101 70 130 5.05 20 Surr: BFB 2000 993.0 200 37.7 212 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2211297**

17-Nov-22

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: mb-71353	Samp ⁻	Туре: МЕ	BLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batc	h ID: 71 3	353	F	RunNo: 92	2451				
Prep Date: 11/7/2022	Analysis [Date: 11	/9/2022	5	SeqNo: 3	322823	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: 4-Bromofluorobenzene	0.96		1.000		95.9	70	130			
Comple ID: 1 CC 74252	0	Turnou I C	•	T	10 - I - E	N M - 411	0004D- Valati	1		

Sample ID: LCS-71353	Samp	ype: LC	S	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	n ID: 713	353	F	RunNo: 92	2451				
Prep Date: 11/7/2022	Analysis [Date: 11	/9/2022	5	SeqNo: 33	322837	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.4	80	120			
Toluene	0.96	0.050	1.000	0	96.4	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.4	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		95.8	70	130			

Sample ID: mb-71393	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batcl	n ID: 71 3	393	F	RunNo: 92	2479				
Prep Date: 11/9/2022	Analysis D	Date: 11	/10/2022	5	SeqNo: 3	327270	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: 4-Bromofluorobenzene	0.95		1.000		94.8	70	130			

Sample ID: Ics-71393	Samp	ype: LC	s	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	n ID: 713	93	F	RunNo: 92	2479				
Prep Date: 11/9/2022	Analysis [Date: 11	/10/2022	5	SeqNo: 33	327271	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.9	80	120			
Toluene	0.95	0.050	1.000	0	95.4	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.7	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		95.8	70	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2211297** *17-Nov-22*

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: 2211297-012ams	Samp	Гуре: м S	}	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: BH22-06 2'	Batcl	h ID: 71 3	393	F	RunNo: 92	2479				
Prep Date: 11/9/2022	Analysis [Analysis Date: 11/10/2022 SeqNo: 3327			327274	Units: mg/K	g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9843	0	98.4	68.8	120			
Toluene	1.0	0.049	0.9843	0	103	73.6	124			
Ethylbenzene	1.0	0.049	0.9843	0	104	72.7	129			
Xylenes, Total	3.1	0.098	2.953	0.01740	104	75.7	126			
Surr: 4-Bromofluorobenzene	0.92		0.9843		93.2	70	130			

Sample ID: 2211297-012ams	d Samp	Туре: МS	SD	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: BH22-06 2'	Bato	h ID: 71 3	393	F	RunNo: 9	2479				
Prep Date: 11/9/2022	Analysis I	Date: 11	/10/2022	S	SeqNo: 3	327278	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9960	0	99.7	68.8	120	2.48	20	
Toluene	1.0	0.050	0.9960	0	104	73.6	124	2.76	20	
Ethylbenzene	1.1	0.050	0.9960	0	106	72.7	129	3.26	20	
Xylenes, Total	3.2	0.10	2.988	0.01740	107	75.7	126	3.76	20	
Surr: 4-Bromofluorobenzene	0.95		0.9960		95.2	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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 25 of 25



Hall Environmental Analysis Laboratory 4901 Hawkins NE

Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

IEL: 305-343-39/3 FAX: 303-343-410/ Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

	Vertex Reso Services, In		Work	Order Numl	oer: 2211297		RcptNo: 1	
Received By:	Andy Free	man	11/5/202	22 2:10:00	PM	andyl		
Completed By:	Juan Roja	S	11/7/202	22 7:09:44	AM	Grant &		
Reviewed By:	KOC	11.7	. 22					
Chain of Cust	ody							
1. Is Chain of Cu	stody compl	ete?			Yes 🔽	No 🗌	Not Present	
2. How was the s	ample delive	ered?			Courier			
Log In								
3. Was an attem	ot made to c	ool the sampl	es?		Yes 🗹	No 🗌	NA 🗀	
4. Were all samp	les received	at a temperat	ure of >0° C t	o 6.0°C	Yes 🗹	No 🗆	NA 🗆	
5. Sample(s) in p	roper contai	ner(s)?			Yes 🗸	No 🗌		
6. Sufficient samp	ole volume fo	or indicated te	st(s)?		Yes 🗸	No 🗌		
7. Are samples (e	except VOA	and ONG) pro	perly preserve	d?	Yes 🔽	No 🗌		
8. Was preservat	ive added to	bottles?			Yes 🗌	No 🗹	NA 🗆	
9. Received at lea	ast 1 vial with	n headspace	<1/4" for AQ V	OA?	Yes 🗌	No 🗆	NA 🗹	
10. Were any sam	ple containe	rs received b	roken?		Yes	No 🔽	# of preserved	
11. Does paperwor (Note discrepa					Yes 🗸	No 🗌	bottles checked for pH: (<2 or >12 unless-	noted)
12. Are matrices o					Yes 🗹	No 🗌	Adjusted?	
[3. Is it clear what	analyses we	re requested	?		Yes 🗹	No 🗌		1_
 Were all holdin (If no, notify cu 	-				Yes 🗹	No 🗌	Checked by: 7417	-12
Special Handli	ng (if app	licable)						
15. Was client not	ified of all di	screpancies v	vith this order?		Yes 🗌	No 🗌	NA 🗹	
Person I	Notified:			Date				
By Who	m:]			Via:	eMail	Phone 🗌 Fax	in Person	
Regardii								
Client In	structions:							
16. Additional ren	narks:							
17. Cooler Inform	nation_							
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By		
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3	2.8	Good						

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Chain-of-Custody Record	Turn-Around Time: 5-1394						2		ENVIDONMENTAL	ATN	
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					WWW	www.hallenvironmental.com	viron	nenta	L COM		
Mailing Address: On File	skbarry	6 Fed 1 Well 290	49	4901 Hawkins NE -	kins N		enbng	erque,	Albuquerque, NM 87109		
			Te	Tel. 505-345-3975	345-39	22	Fах	505-3	505-345-4107	1	
Phone #:	22E-02537				8	Ana	Analysis	Request	st		
email or Fax#:	Project Manager:					OS			(nus		
QA/QC Package:	Charce Dixon	Dixon		s,80	SW	3 '⊅C			2647	18	
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Released to Imaging: 10/3/2023 9:14:51 AM may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record	Turn-Around T	Time: 5-044	24			V	ш	2		HALL ENVIDONMENTAL	IATA
Client:	Z-Standard	K Rush			1 [AN	\ \	SIS		ANALYSIS LABORATORY	TORY
	Project Name:		Berger - Addition			www	www.hallenvironmental.com	vironn	nenta	moo.	
Mailing Address: On File	HOCK	Hackberry G.	G FED 1 WOIL 1290	490	1 Haw	4901 Hawkins NE -	E .	pndne	erdne	Albuquerque, NM 87109	
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Phone #:	228-0	02537	A Comment of the Comm				Ana	Analysis	Request	est	
email or Fax#:	Project Manager:	ger:					⁷ OS			(1ue	
QA/QC Package: □ Standard □ Level 4 (Full Validation)	n) Chonce	nce Dixon	c	208) e'a	bCB,8	SMIS0	PO _{4,} 9			edA∖tn	
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	On loe:	Yes	□ No						(AC	ر _ت	
□ EDD (Type)	# of Coolers:	3)Λ-!	u.i	
	Cooler Temp(Including CF).	Including CF).	(°C)						шәс	Ofilo	33
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Date: Time: Relinquished by:	Received by:	Via:	Date Time	Remarks:	1.00 K	.0		Stallin	Spanips	150170017	1301
Date: Time: Relinquished by:	1.01	Viai	Date Time	3.6.0.	3.5						Sec.
"Him (And agreement)	Coll May		11/5/26 1410	2.4 0.	7,7						

Released to Imaging: 10/3/2023 9:14:51 Am may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

January 12, 2023

Chance Dixon
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: Hackberry 6 Federal 1 OrderNo.: 2301225

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 4 sample(s) on 1/6/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report Lab Order 2301225

Date Reported: 1/12/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-01 0-4'

 Project:
 Hackberry 6 Federal 1
 Collection Date: 1/4/2023 11:30:00 AM

 Lab ID:
 2301225-001
 Matrix: SOIL
 Received Date: 1/6/2023 7:45:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS					Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/10/2023 2:51:55 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/10/2023 2:51:55 AM
Surr: DNOP	111	21-129		%Rec	1	1/10/2023 2:51:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/9/2023 12:20:00 PM
Surr: BFB	111	37.7-212		%Rec	1	1/9/2023 12:20:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/9/2023 12:20:00 PM
Toluene	ND	0.049		mg/Kg	1	1/9/2023 12:20:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/9/2023 12:20:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	1/9/2023 12:20:00 PM
Surr: 4-Bromofluorobenzene	130	70-130	S	%Rec	1	1/9/2023 12:20:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/9/2023 6:40:35 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 1 of 8

Analytical Report

Lab Order 2301225

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/12/2023

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-02 0-4'

 Project:
 Hackberry 6 Federal 1
 Collection Date: 1/4/2023 11:35:00 AM

 Lab ID:
 2301225-002
 Matrix: SOIL
 Received Date: 1/6/2023 7:45:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS					Analyst: DGH
Diesel Range Organics (DRO)	9.6	9.2		mg/Kg	1	1/10/2023 10:29:41 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/10/2023 10:29:41 AM
Surr: DNOP	130	21-129	S	%Rec	1	1/10/2023 10:29:41 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/9/2023 1:19:00 PM
Surr: BFB	110	37.7-212		%Rec	1	1/9/2023 1:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/9/2023 1:19:00 PM
Toluene	ND	0.049		mg/Kg	1	1/9/2023 1:19:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/9/2023 1:19:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	1/9/2023 1:19:00 PM
Surr: 4-Bromofluorobenzene	127	70-130		%Rec	1	1/9/2023 1:19:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	110	60		mg/Kg	20	1/9/2023 6:52:55 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 8

Analytical Report

Lab Order **2301225**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/12/2023

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-03 0-4'

 Project:
 Hackberry 6 Federal 1
 Collection Date: 1/4/2023 11:40:00 AM

 Lab ID:
 2301225-003
 Matrix: SOIL
 Received Date: 1/6/2023 7:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	1/10/2023 3:13:13 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/10/2023 3:13:13 AM
Surr: DNOP	112	21-129	%Rec	1	1/10/2023 3:13:13 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/9/2023 2:18:00 PM
Surr: BFB	105	37.7-212	%Rec	1	1/9/2023 2:18:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/9/2023 2:18:00 PM
Toluene	ND	0.050	mg/Kg	1	1/9/2023 2:18:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/9/2023 2:18:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/9/2023 2:18:00 PM
Surr: 4-Bromofluorobenzene	122	70-130	%Rec	1	1/9/2023 2:18:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	140	61	mg/Kg	20	1/9/2023 7:05:16 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 8

Analytical Report Lab Order 2301225

Date Reported: 1/12/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-07 0-4'

 Project:
 Hackberry 6 Federal 1
 Collection Date: 1/4/2023 3:20:00 PM

 Lab ID:
 2301225-004
 Matrix: SOIL
 Received Date: 1/6/2023 7:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/10/2023 3:23:53 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/10/2023 3:23:53 AM
Surr: DNOP	114	21-129	%Rec	1	1/10/2023 3:23:53 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/9/2023 2:38:00 PM
Surr: BFB	104	37.7-212	%Rec	1	1/9/2023 2:38:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/9/2023 2:38:00 PM
Toluene	ND	0.050	mg/Kg	1	1/9/2023 2:38:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/9/2023 2:38:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/9/2023 2:38:00 PM
Surr: 4-Bromofluorobenzene	121	70-130	%Rec	1	1/9/2023 2:38:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	860	60	mg/Kg	20	1/9/2023 7:17:35 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

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 4 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301225** *12-Jan-23*

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Federal 1

Sample ID: LCS-72511 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72511 RunNo: 93837

Prep Date: 1/9/2023 Analysis Date: 1/9/2023 SeqNo: 3387328 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 93.3 90 110

Qualifiers:

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 5 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#: 2301225 12-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Federal 1

Sample ID: LCS-72502 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 72502 RunNo: 93818 Units: mg/Kg Prep Date: 1/6/2023 Analysis Date: 1/9/2023 SeqNo: 3386799 Analyte PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Result LowLimit Qual Diesel Range Organics (DRO) 42 10 50.00 0 83.4 64.4 127 Surr: DNOP 5.5 5.000 111 21 129

Sample ID: MB-72502 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

10.00

Client ID: PBS Batch ID: 72502 RunNo: 93818

11

Prep Date: Analysis Date: 1/9/2023 1/6/2023 SeqNo: 3386803 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50

112

21

129

Qualifiers:

Surr: DNOP

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Е Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 6 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301225** *12-Jan-23*

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Federal 1

Sample ID: Ics-72494	SampT	ype: LC	S	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch	n ID: 72 4	194	RunNo: 93823						
Prep Date: 1/6/2023	Analysis D	Date: 1/9	9/2023	\$	SeqNo: 3	386844	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	72.3	137			
Surr: BFB	2300		1000		230	37.7	212			S
Sample ID: mb-72494	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8015D: Gaso	line Range	ı	
Sample ID: mb-72494 Client ID: PBS	•	ype: ME n ID: 72 4			tCode: EF RunNo: 9 ;		8015D: Gaso	line Range		
•	•	n ID: 72 4	194	F		3823	8015D: Gaso Units: mg/K	J		
Client ID: PBS	Batch	n ID: 72 4	194	F	RunNo: 9:	3823		J	RPDLimit	Qual
Client ID: PBS Prep Date: 1/6/2023	Batch Analysis D	n ID: 72 4 Date: 1/ 9	194 9/2023	F	RunNo: 9; SeqNo: 3;	3823 386845	Units: mg/K	(g		Qual

Sample ID: 2301225-001AMS	SampT	ype: MS	;	Tes	tCode: EF	PA Method	8015D: Gasol	ine Range		
Client ID: WS23-01 0-4'	Batch	ID: 72 4	194	F	RunNo: 93	3823				
Prep Date: 1/6/2023	Analysis D	ate: 1/9	9/2023	5	SeqNo: 33	386847	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.9	24.65	0	108	70	130		_	_
Surr: BFB	2500		986.2		256	37.7	212			S

Sample ID: 2301225-001AMS	D Samp1	Гуре: МЅ	SD .	Tes	tCode: EF	PA Method	8015D: Gaso	ine Range		
Client ID: WS23-01 0-4'	Batcl	h ID: 72 4	194	F	RunNo: 9:	3823				
Prep Date: 1/6/2023	Analysis [Date: 1/9	9/2023	5	SeqNo: 3	386848	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.95	0	100	70	130	6.24	20	
Surr: BFB	2300		998.0		234	37.7	212	0	0	S

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 7 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301225**

12-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Federal 1

Sample ID: Ics-72494	SampT	ype: LC :	S	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	n ID: 72 4	194	RunNo: 93823						
Prep Date: 1/6/2023	Analysis D	Date: 1/9	9/2023	9	SeqNo: 3	386882	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	109	80	120			
Toluene	1.1	0.050	1.000	0	113	80	120			
Ethylbenzene	1.1	0.050	1.000	0	113	80	120			
Xylenes, Total	3.4	0.10	3.000	0	113	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		128	70	130			

Sample ID: mb-72494	Samp	Гуре: МЕ	BLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batcl	h ID: 72 4	194	F						
Prep Date: 1/6/2023	Analysis [Date: 1/9	9/2023	5	SeqNo: 3	386883	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: 4-Bromofluorobenzene	1.3		1.000		128	70	130			

Sample ID: 2301225-002AMS	Samp	уре: МЅ	;	Tes	tCode: EF	PA Method	8021B: Volati	les			
Client ID: WS23-02 0-4'	Batcl	n ID: 72 4	194	RunNo: 93823							
Prep Date: 1/6/2023	Analysis [Date: 1/9	9/2023	9	SeqNo: 33	386886	Units: mg/K	g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.0	0.025	0.9950	0	104	68.8	120				
Toluene	1.1	0.050	0.9950	0	110	73.6	124				
Ethylbenzene	1.1	0.050	0.9950	0	111	72.7	129				
Xylenes, Total	3.3	0.10	2.985	0	112	75.7	126				
Surr: 4-Bromofluorobenzene	1.2		0.9950		121	70	130				

Sample ID: 2301225-002AMSD	SampT	ype: MS	D	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: WS23-02 0-4'	Batch	n ID: 72 4	194	F	RunNo: 93	3823				
Prep Date: 1/6/2023	Analysis D	Date: 1/9	9/2023	9	SeqNo: 33	386887	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9901	0	105	68.8	120	0.839	20	
Toluene	1.1	0.050	0.9901	0	110	73.6	124	0.0478	20	
Ethylbenzene	1.1	0.050	0.9901	0	112	72.7	129	0.115	20	
Xylenes, Total	3.3	0.099	2.970	0	113	75.7	126	0.407	20	
Surr: 4-Bromofluorobenzene	1.2		0.9901		123	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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 8 of 8



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

Client Name:	Devon Energy	Work Order Nun	nber: 2301225		RcptNo: 1	
Received By:	Juan Rojas	1/6/2023 7:45:00 /	AM	Human &		
Completed By:	Sean Livingston	1/6/2023 8:01:42		Juan Engl		
	_	1/4/23	NIVI.	Sali	John	
Reviewed By:	TIME	110125				
Chain of Cust	tody					
1. Is Chain of Cu	stody complete?		Yes 🗹	No 🗌	Not Present	
2. How was the s	sample delivered?		<u>Courier</u>			
<u>Log In</u>			_			
3. Was an attem	pt made to cool the san	nples?	Yes 🗸	No 🗌	NA 🗌	
4. Were all samp	les received at a tempe	rature of >0° C to 6.0°C	Yes 🗹	No 🗆	na 🗆	
5. Sample(s) in p	proper container(s)?		Yes 🗹	No 🗌		
6. Sufficient samp	ple volume for indicated	test(s)?	Yes 🗹	No 🗌		
7. Are samples (e	except VOA and ONG) ¡	properly preserved?	Yes 🗹	No 🗌		
8. Was preservat	tive added to bottles?		Yes 🗌	No 🗹	NA 🗌	
9. Received at lea	ast 1 vial with headspac	e <1/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹	
10. Were any sam	nple containers received	I broken?	Yes	No 🗹	# of preserved	
	rk match bottle labels? Incies on chain of custo	dy)	Yes 🗹	No 🗆	bottles checked for pH:(<2 or >12 unless no	oted)
12. Are matrices c	orrectly identified on Ch	ain of Custody?	Yes 🗸	No 🗆	Adjusted?	
13. Is it clear what	analyses were requeste	ed?	Yes 🗹	No 🗌		
	ng times able to be met? ustomer for authorization		Yes 🗹	No 🗆 📗	Checked by: Jn 1 6	23
Special Handli	ing (if applicable)					
15. Was client not	tified of all discrepancie	s with this order?	Yes 🗌	No 🗌	NA 🗹	
Person	Notified:	Date	e: [
By Who	m:	Via:	eMail F	Phone Fax	☐ In Person	
Regardi	ng:					
Client In	structions:					
16. Additional rer	marks:					
17. Cooler Inform	The state of the s		1			
Cooler No	Temp °C Condition	n Seal Intact Seal No	Seal Date	Signed By		
1	0.2 Good			1		

	ANALYSTS LABORATORY	www hallenvironmental com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	*OS	PCB's PCB's PCB's	2808/s (1.40) (1.40) ΣSS 10 (A)	(GR 50 consides to the consides considers considerate considers considerate consider	15D lethory y 83 3r, 1 3r, 1 yOA	ETEX / TPH:80 8081 Pd 8081 Pd PHs b PCRA 8 8260 (V 8270 (S Total C)				The state of the s			Remarks:	Direct Din Deven		Refeased to massay and the clearly noticed and be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
Turn-Around Time:	□ Standard M Rush 48 h.v		Hackborn le Federal 1		726-02557	Project Manager:	Chence Dixon	Sampler: Michael Bornes	olers:	Cooler Temp(including CF): 0. 1-+6. 1 = 0. 2 (°C)	Container Preservative HEAL No. Type and # Type	Hotjar Icc 001		ILL					Received by: Via: Date Time	Via: Date Tir	10 w/w 16/23 7 'W	contracted to other/accredited laboratories. This serves as notice of this
Chain-of-Custody Record	Client: Dozon / Lathx		Mailing Address:		Phone #:	email or Fax#:	QA/QC Package: □ Standard □ Level 4 (Full Validation)	: ☐ Az Compliance	ODE)		Date Time Matrix Sample Name	01/04 11:30 Soil 12523-01 0-41	01/04 11:35 Soil W523-02 8-41	11:40 Soil WA33-03 0-4:	0/04 1520 Soil US23-07 0-41				Date: Time: Relinquished by:	÷	1960 JULY JULY	Released to pressary samples submitted to tiel Engigemental may be subc

1 Released to Imaging 10/3/2023 7:14:3 FAM



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

January 13, 2023

Chance Dixon
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040

FAX:

RE: Huckberry 6 Fed 1 OrderNo.: 2301270

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/7/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report Lab Order 2301270

Date Reported: 1/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-12 0-4'

 Project:
 Huckberry 6 Fed 1
 Collection Date: 1/5/2023 11:30:00 AM

 Lab ID:
 2301270-001
 Matrix: SOIL
 Received Date: 1/7/2023 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/11/2023 11:13:47 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/11/2023 11:13:47 AM
Surr: DNOP	126	21-129	%Rec	1	1/11/2023 11:13:47 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JR
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/11/2023 1:06:00 PM
Surr: BFB	105	37.7-212	%Rec	1	1/11/2023 1:06:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: JR
Benzene	ND	0.025	mg/Kg	1	1/11/2023 1:06:00 PM
Toluene	ND	0.050	mg/Kg	1	1/11/2023 1:06:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/11/2023 1:06:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/11/2023 1:06:00 PM
Surr: 4-Bromofluorobenzene	117	70-130	%Rec	1	1/11/2023 1:06:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	1000	60	mg/Kg	20	1/10/2023 5:39:45 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 5

Hall Environmental Analysis Laboratory, Inc.

2301270 13-Jan-23

WO#:

Client: Vertex Resources Services, Inc.

Project: Huckberry 6 Fed 1

Sample ID: MB-72561 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72561 RunNo: 93840

Prep Date: 1/10/2023 Analysis Date: 1/10/2023 SeqNo: 3388440 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72561 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72561 RunNo: 93840

Prep Date: 1/10/2023 Analysis Date: 1/10/2023 SeqNo: 3388441 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 92.6 90 110

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 Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 5

Hall Environmental Analysis Laboratory, Inc.

2301270 13-Jan-23

WO#:

Client: Vertex Resources Services, Inc.

Project: Huckberry 6 Fed 1

Sample ID: LCS-72541 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 72541 RunNo: 93869 Units: mg/Kg Prep Date: 1/10/2023 Analysis Date: 1/11/2023 SeqNo: 3388577 **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result LowLimit Qual Diesel Range Organics (DRO) 43 10 50.00 0 85.0 64.4 127 Surr: DNOP 5.7 5.000 113 21 129

Sample ID: MB-72541 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 72541 RunNo: 93869

Prep Date: 1/10/2023 Analysis Date: 1/11/2023 SeqNo: 3388580 Units: mg/Kg

LowLimit Analyte Result PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50 Surr: DNOP 12 10.00 117 21 129

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: 2301270

13-Jan-23

Client: Vertex Resources Services, Inc.

Project: Huckberry 6 Fed 1

Sample ID: Ics-72532 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 72532 RunNo: 93873 Units: mg/Kg Prep Date: 1/10/2023 Analysis Date: 1/11/2023 SeqNo: 3389575 **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte Result LowLimit Gasoline Range Organics (GRO) 24 5.0 25.00 0 94.8 72.3 137 Surr: BFB 2200 1000 222 37.7 212 S

Sample ID: mb-72532 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: 72532 RunNo: 93873 Prep Date: 1/10/2023 Analysis Date: 1/11/2023 SeqNo: 3389576 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

1100

1000

37.7

110

212

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 4 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: 2301270

13-Jan-23

Client: Vertex Resources Services, Inc.

Project: Huckberry 6 Fed 1

Sample ID: Ics-72532	Samp	Гуре: LC :	S	Tes						
Client ID: LCSS	Batcl	h ID: 725	532	F	RunNo: 9	3873				
Prep Date: 1/10/2023	Analysis [Date: 1/ 1	11/2023	5	SeqNo: 3	389628	Units: mg/K			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	116	80	120			
Toluene	1.2	0.050	1.000	0	116	80	120			
Ethylbenzene	1.2	0.050	1.000	0	116	80	120			
Xylenes, Total	3.5	0.10	3.000	0	116	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		125	70	130			

Sample ID: mb-72532	SampT	уре: МЕ	BLK	Tes	tCode: EF							
Client ID: PBS	Batch	n ID: 72 5	532	F	RunNo: 93	3873						
Prep Date: 1/10/2023	Analysis D	oate: 1/	11/2023	5	SeqNo: 33	389629	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	ND	0.025										
Toluene	ND	0.050										
Ethylbenzene	ND	0.050										
Xylenes, Total	lenes, Total ND 0.10											
Surr: 4-Bromofluorobenzene 1.3 1.000				126	70	130						

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Limit

Page 5 of 5

Hall Environmental Analysis Laboratory 4901 Hawkins NE

Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

Client Name:	Vertex Research		Work	Order Numi	per: 2301270	RcptNo: 1					
Pagainad Pur	Chavenne	Canan	4/7/202	<i>9</i> √ 3 8:36:00 A	34.9.27	Chents					
Received By:	Cheyenne					Chul					
Completed By:	Cheyenne	Cason	1/7/202	3 8:51:52 A	М	Chul					
Reviewed By:											
Chain of Cus	tody										
1. Is Chain of C	ustody comp	lete?			Yes 🗌	No 🗹	Not Present				
2. How was the	sample deliv	ered?			Courier						
<u>Log In</u>						_					
Was an attern	pt made to o	ool the samp	les?		Yes 🗹	No 🗌	NA 🗌				
4. Were all samp	oles received	at a tempera	ture of >0° C	to 6.0°C	Yes 🗹	No 🗌	na 🗆				
5. Sample(s) in	proper contai	ner(s)?			Yes 🗹	No 🗌					
6. Sufficient sam	ple volume f	or indicated to	est(s)?		Yes 🗹	No 🗌					
7. Are samples (except VOA	and ONG) pr	operly preserve	ed?	Yes 🗸	No 🗌					
8. Was preserva	tive added to	bottles?			Yes 🗌	No 🗹	na 🗆				
9. Received at le	east 1 vial wit	h headspace	<1/4" for AQ \	OA?	Yes 🗌	No 🗌	NA 🗹				
0. Were any sar	nple containe	ers received b	oroken?		Yes	No 🗹	# of preserved				
1.Does paperwo	ork match bot	tle labels?			Yes 🗹	No 🗆	bottles checked for pH:				
(Note discrepa		-	•			\square	(<2.e/ Adjusted?	>12 unless not			
2. Are matrices of	•		•		Yes 🗹	No ∐	Adjusted:				
3. Is it clear wha	-		?		Yes 🗹	No ∐ No □	Checked by: (mc 1/7			
4. Were all holdi (If no, notify c	-		į.		Yes 🗹	NO L	Oncored by.	NIC (7)			
pecial Handl	ing (if app	licable)									
5. Was client no	tified of all di	screpancies	with this order	?	Yes 🗌	No 🗆	NA 🗹	=			
Person	Notified:			Date:							
By Who				Via:	eMail [] Phone [] Fax	☐ In Person				
Regard	-										
	nstructions:										
16. Additional re	marks:										
7. Cooler Infor		-	10.00.00.00	1	(11400 mm	I and a second	9				
Cooler No		Condition	Seal Intact	Seal No	Seal Date	Signed By	Verange de la companya de la company				
1	3.0	Good	Not Present	Yogi			8				

	ANALYSIS LABORATORY	environme	4901 Hawkins NE - Albuquerque, NM 87109	 Analysis Request	†O!	PCB's PO ₄ , S	7		The state of the s			The state of the s			Direct 5:11 Devan, CL: Michael Barnes	hillfy. Any surh-contracted data will be clearly notated on the analytical report.				
Turn-Around Time:	□ Standard ☑ Rush 48トャ		Hartoery 6 - FC 1	4557.0-27.7	Project Manager:	yex (A	r. Michaul Barnes	On ice: Yes No	(Including CF); 3, 0 -0,3,0 (°C)	Container Preservative HEAL No.	Hoz. you Ice all							Received by: Via: Date Time Ren	Via: Date	Om $Com^{\prime\prime}$ $1/\tau_{c3}$ (800)
Chain-of-Custody Record	Client: Devon / Vertex		Mailing Address: 0~ File	Phone #:	email or Fax#:	QA/QC Package: Standard Level 4 (Full Validation)	☐ Az Compliance	□ NELAC □ Other		Date Time Matrix Sample Name	01/05/1130 5011 WS28-12 0-41							Date: Time: Relinquished by:	selinquished by:	[W(の) Wm MAMMLへの Omc Com・I 1/23 俗で Increases a profile of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

January 13, 2023

Chance Dixon
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040

FAX:

RE: Hackberry 6 Fed 1 OrderNo.: 2301321

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 2 sample(s) on 1/10/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report Lab Order 2301321

Date Reported: 1/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-14 0-4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/6/2023 9:15:00 AM

 Lab ID:
 2301321-001
 Matrix: SOIL
 Received Date: 1/10/2023 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH			
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/11/2023 7:46:30 PM			
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/11/2023 7:46:30 PM			
Surr: DNOP	109	21-129	%Rec	1	1/11/2023 7:46:30 PM			
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JR			
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/11/2023 1:25:00 PM			
Surr: BFB	104	37.7-212	%Rec	1	1/11/2023 1:25:00 PM			
EPA METHOD 8021B: VOLATILES					Analyst: JR			
Benzene	ND	0.024	mg/Kg	1	1/11/2023 1:25:00 PM			
Toluene	ND	0.047	mg/Kg	1	1/11/2023 1:25:00 PM			
Ethylbenzene	ND	0.047	mg/Kg	1	1/11/2023 1:25:00 PM			
Xylenes, Total	ND	0.095	mg/Kg	1	1/11/2023 1:25:00 PM			
Surr: 4-Bromofluorobenzene	118	70-130	%Rec	1	1/11/2023 1:25:00 PM			
EPA METHOD 300.0: ANIONS					Analyst: JMT			
Chloride	320	60	mg/Kg	20	1/11/2023 12:40:54 PM			

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 6

Analytical Report Lab Order 2301321

Date Reported: 1/13/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-15 0-4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/6/2023 9:20:00 AM

 Lab ID:
 2301321-002
 Matrix: SOIL
 Received Date: 1/10/2023 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE (ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	1/11/2023 7:56:56 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/11/2023 7:56:56 PM
Surr: DNOP	103	21-129	%Rec	1	1/11/2023 7:56:56 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JR
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/11/2023 1:45:00 PM
Surr: BFB	103	37.7-212	%Rec	1	1/11/2023 1:45:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: JR
Benzene	ND	0.025	mg/Kg	1	1/11/2023 1:45:00 PM
Toluene	ND	0.049	mg/Kg	1	1/11/2023 1:45:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/11/2023 1:45:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/11/2023 1:45:00 PM
Surr: 4-Bromofluorobenzene	118	70-130	%Rec	1	1/11/2023 1:45:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	820	60	mg/Kg	20	1/11/2023 12:53:19 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

rting Limit Page 2 of 6

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301321**

13-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1

Sample ID: MB-72561 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72561 RunNo: 93840

Prep Date: 1/10/2023 Analysis Date: 1/10/2023 SeqNo: 3388440 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72561 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72561 RunNo: 93840

Prep Date: 1/10/2023 Analysis Date: 1/10/2023 SeqNo: 3388441 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 92.6 90 110

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 6

Hall Environmental Analysis Laboratory, Inc.

2301321

WO#:

13-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1

Sample ID: LCS-72541 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 72541 RunNo: 93869 Units: mg/Kg Prep Date: 1/10/2023 Analysis Date: 1/11/2023 SeqNo: 3388577 **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result LowLimit Qual Diesel Range Organics (DRO) 43 10 50.00 0 85.0 64.4 127 Surr: DNOP 5.7 5.000 113 21 129

Sample ID: MB-72541 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 72541 RunNo: 93869

Prep Date: 1/10/2023 Analysis Date: 1/11/2023 SeqNo: 3388580 Units: mg/Kg

LowLimit Analyte Result PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50 Surr: DNOP 12 10.00 117 21 129

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

Page 4 of 6

Hall Environmental Analysis Laboratory, Inc.

2301321 13-Jan-23

WO#:

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1

Sample ID: Ics-72532 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 72532 RunNo: 93873 Units: mg/Kg Prep Date: 1/10/2023 Analysis Date: 1/11/2023 SeqNo: 3389575 **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Result Gasoline Range Organics (GRO) 24 5.0 25.00 0 94.8 72.3 137 Surr: BFB 2200 1000 222 37.7 212 S

Sample ID: mb-72532 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: 72532 RunNo: 93873 Prep Date: 1/10/2023 Analysis Date: 1/11/2023 SeqNo: 3389576 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

1100

1000

110

37.7

212

Qualifiers:

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

PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated.

Analyte detected in the associated Method Blank

Above Quantitation Range/Estimated Value

Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Limit Page 5 of 6

Hall Environmental Analysis Laboratory, Inc.

WO#: 2301321

13-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1

Sample ID: Ics-72532	SampT	ype: LC	s	Tes	tCode: EF	les						
Client ID: LCSS	Batcl	n ID: 725	32	F	RunNo: 93	3873						
Prep Date: 1/10/2023	Analysis D	Date: 1/1	11/2023	5	SeqNo: 33	389628	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	1.2	0.025	1.000	0	116	80	120					
Toluene	1.2	0.050	1.000	0	116	80	120					
Ethylbenzene	1.2	0.050	1.000	0	116	80	120					
Xylenes, Total	3.5	0.10	3.000	0	116	80	120					
Surr: 4-Bromofluorobenzene	1.3		1.000		125	70	130					

Sample ID: mb-72532	SampT	уре: МЕ	BLK	Tes								
Client ID: PBS	Batcl	n ID: 72 5	532	F	RunNo: 93	3873						
Prep Date: 1/10/2023	Analysis D	Date: 1/	11/2023	9	SeqNo: 33	389629	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	ND	0.025										
Toluene	ND	0.050										
Ethylbenzene	ND	0.050										
Xylenes, Total	ND	0.10										
Surr: 4-Bromofluorobenzene		1.000		126	70	130						

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Limit

Page 6 of 6

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

		website. ww	w.nanenvironmenia	i.com		
Client Name:	Vertex Resources Services, Inc.	Work Order Num	ber: 2301321		RcptNo:	1
Received By:	Juan Rojas	1/10/2023 7:30:00	АМ	Hans y		
Completed By:	Sean Livingston	1/10/2023 7:50:01		Juans &		
Reviewed By:		1 .	2 (18)	Saling	of	
Neviewed by.	J0	1/10/23				
Chain of Cus	stody					
1. Is Chain of C	Custody complete?		Yes 🗹	No 🗌	Not Present	
2. How was the	sample delivered?		Courier			
Log In						
3. Was an atten	mpt made to cool the samp	les?	Yes 🗹	No 🗌	na 🗆	
4. Were all sam	ples received at a tempera	ture of >0° C to 6.0°C	Yes 🗹	No 🗌	na 🗆	
5. Sample(s) in	proper container(s)?		Yes 🗹	No 🗌		
	nple volume for indicated to		Yes 🗹	No 🗌		
7. Are samples ((except VOA and ONG) pro	pperly preserved?	Yes 🗹	No ∐		
8. Was preserva	ative added to bottles?		Yes 🗌	No 🗹	NA 🗌	
9. Received at le	east 1 vial with headspace	<1/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹	
10. Were any sar	mple containers received b	roken?	Yes	No 🗹	# of preserved	
11 Does nanenw	ork match bottle labels?		Yes 🗹		bottles checked for pH:	
	ancies on chain of custody)	res 🖭			12 unless noted)
12. Are matrices	correctly identified on Chair	n of Custody?	Yes 🗹	No 🗆	Adjusted?	
13. Is it clear wha	it analyses were requested	?	Yes 🗹	No 🗌		1 1 100
	ing times able to be met?		Yes 🗹	No 🗌	Officked by:	1~110/13
(If no, notify c	sustomer for authorization.)				1	
	ling (if applicable)					
15. Was client no	otified of all discrepancies v	vith this order?	Yes 🗌	No 🗌	NA 🗹	
	Notified:	Date				
By Who	,	Via:	eMail F	Phone 🗍 Fax [in Person	
Regard	ling:					
Client I	nstructions:					
16. Additional re	emarks:					
17. Cooler Info		8				
Cooler No		Seal Intact Seal No	Seal Date	Signed By		
1	0.0 Good		1	Management		

	HALL ENVIRONMENTAL	AINALISIS LABORALORY	www.nallenvironmental.com 4901 Hawkins NE - Albuquerque NM 87109		Analysis	(ju		(1.1) 82703 9.,5	502 s 10,8	ood 1310 NO: //	Mettl by 8 N 8 N Br, (VOV)	В270 (В260 (В260 (В260 (2	7							10:11 Devon Co: Michael	b-contracted data will be clearly notated on the analytical report
			4901	Tel. 5		_) AM \ (_	ОЯ	19)c	12108	3:H9T	7	1						Remarks:	Dien	ility. Any su
		III		_		(1208)	TMB's	/ =			ATB	7	7						Rem	<u>το</u>	idissod si
Turn-Around Time:	□ Standard \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Hackberry 6 Feet		5550-773	Project Manager:	Charce Dixon	r. Michael	On Ice: 🛛 Yes 🗆 No		COORD TELL (Modulang CF).	Container Preservative HEAL No. Type and # Type Z 3 \ 32 \	Hoter Ict 001	452 JAN 11-2						Received by: Via: Date Time	Redelived by: Via: Date Time	ntracted to other accredited laboratories. This serves as notice of this
Chain-of-Custody Record	Client: Deven / Vertex		Mailing Address: 🖒 มีการ		Phone #:	email or Fax#:	QA/QC Package:	1:	U Other	L EUU (1ype)		Date Time Matrix Sample Name	0100 0915 Soil W523-14 0-41	01/26 0920 Soil W528-15 0-4					i	P (bb)	Pate: Trime: Relinquished by:	Release がおおおのまままでは、 Any sub-contracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report



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

OrderNo.: 2301376

January 17, 2023

Chance Dixon
Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210

TEL: (575) 748-0176 FAX:

RE: Hackberry 6 Fed 1 Well Pad

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 2 sample(s) on 1/11/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 1/17/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-01 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/9/2023 10:45:00 AM

 Lab ID:
 2301376-001
 Matrix: SOIL
 Received Date: 1/11/2023 7:35:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/13/2023 12:41:59 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/13/2023 12:41:59 AM
Surr: DNOP	106	69-147	%Rec	1	1/13/2023 12:41:59 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/12/2023 6:07:39 PM
Surr: BFB	101	37.7-212	%Rec	1	1/12/2023 6:07:39 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/12/2023 6:07:39 PM
Toluene	ND	0.049	mg/Kg	1	1/12/2023 6:07:39 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/12/2023 6:07:39 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/12/2023 6:07:39 PM
Surr: 4-Bromofluorobenzene	98.2	70-130	%Rec	1	1/12/2023 6:07:39 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	7800	300	mg/Kg	100	1/13/2023 11:30:59 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

rring Limit Page 1 of 6

Date Reported: 1/17/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-02 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/9/2023 10:50:00 AM

 Lab ID:
 2301376-002
 Matrix: SOIL
 Received Date: 1/11/2023 7:35:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	8.8	mg/Kg	1	1/13/2023 12:52:35 AM
Motor Oil Range Organics (MRO)	ND	44	mg/Kg	1	1/13/2023 12:52:35 AM
Surr: DNOP	107	69-147	%Rec	1	1/13/2023 12:52:35 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/12/2023 6:54:28 PM
Surr: BFB	103	37.7-212	%Rec	1	1/12/2023 6:54:28 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/12/2023 6:54:00 PM
Toluene	ND	0.050	mg/Kg	1	1/12/2023 6:54:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/12/2023 6:54:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/12/2023 6:54:00 PM
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	1/12/2023 6:54:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	8100	300	mg/Kg	100	1/13/2023 11:43:24 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 6

Hall Environmental Analysis Laboratory, Inc.

2301376 17-Jan-23

WO#:

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: MB-72586 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72586 RunNo: 93916

Prep Date: 1/12/2023 Analysis Date: 1/12/2023 SeqNo: 3390974 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72586 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72586 RunNo: 93916

Prep Date: 1/12/2023 Analysis Date: 1/12/2023 SeqNo: 3390975 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.4 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 6

Hall Environmental Analysis Laboratory, Inc.

2301376 17-Jan-23

WO#:

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: LCS-72585 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS Batch ID: 72585 RunNo: 93911

Prep Date: 1/12/2023 Analysis Date: 1/12/2023 SeqNo: 3390353 Units: %Rec

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

Surr: DNOP 5.6 5.000 111 69 147

Sample ID: MB-72585 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 72585 RunNo: 93911

Prep Date: 1/12/2023 Analysis Date: 1/12/2023 SeqNo: 3390355 Units: %Rec

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

Surr: DNOP 11 10.00 106 69 147

Sample ID: LCS-72584 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 72584 Prep Date: Analysis Date: 1/12/2023 SeqNo: 3391719 Units: mg/Kg 1/11/2023

SPK value SPK Ref Val Analyte Result POI %REC LowLimit HighLimit %RPD **RPDLimit** Qual 41 10 0 82.0 61.9

Diesel Range Organics (DRO) 50.00 Surr: DNOP 5.3 5.000 106 69 147

Sample ID: MB-72584 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 72584 RunNo: 93911

Prep Date: 1/11/2023 Analysis Date: 1/12/2023 SeqNo: 3391724

Units: mg/Kg %RPD Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit **RPDLimit** Qual

Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50

Surr: DNOP 11 10.00 113 69 147

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 4 of 6

Hall Environmental Analysis Laboratory, Inc.

2301376

WO#:

17-Jan-23

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: mb-72577	Samp1	уре: МЕ	BLK	TestCode: EPA Method 8015D: Gasoline Range)		
Surr: BFB	2000		1000		195	37.7	212			
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.6	72.3	137			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Prep Date: 1/11/2023	Analysis D	Date: 1/	12/2023	SeqNo: 3391322 Units: mg/Kg				g		
Client ID: LCSS	Batcl	n ID: 725	577	F	RunNo: 93	928				
Sample ID: Ics-72577	Samp1	ype: LC	S	TestCode: EPA Method 8015D: Gasoline Range						

Client ID: PBS	Batcl	h ID: 72	577	F	RunNo: 9	3928					
Prep Date: 1/11/2023	Analysis D	Date: 1/	12/2023	SeqNo: 3391323			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	1000		1000		102	37.7	212				

Sample ID: 2301376-001ams	SampT	ype: MS	3	Tes	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: BS23-01 4'	Batch	Batch ID: 72577			RunNo: 93928						
Prep Date: 1/11/2023	Analysis D	ate: 1/	12/2023	SeqNo: 3391462			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	23	4.8	24.22	0	94.7	70	130				
Surr: BFB	1900		969.0		195	37.7	212				

Sample ID: 2301376-001Al	MSD SampT	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: BS23-01 4'	Batch	Batch ID: 72577			RunNo: 93928					
Prep Date: 1/11/2023	Analysis D	ate: 1/	12/2023	SeqNo: 3391464			Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	5.0	24.78	0	78.1	70	130	16.9	20	
Surr: BFB	1800		991.1		181	37.7	212	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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 6

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301376** *17-Jan-23*

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: 2301376-002ams	Samp	SampType: MS			tCode: EF					
Client ID: BS23-02 4'	Batcl	Batch ID: 72577			RunNo: 93928					
Prep Date: 1/11/2023	Analysis [Date: 1/ 1	12/2023	SeqNo: 3391515 Units: mg/Kg			g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9756	0	85.5	68.8	120			
Toluene	0.85	0.049	0.9756	0	86.6	73.6	124			
Ethylbenzene	0.84	0.049	0.9756	0	85.8	72.7	129			
Xylenes, Total	2.5	0.098	2.927	0	86.2	75.7	126			
Surr: 4-Bromofluorobenzene	0.96		0.9756		98.8	70	130			

Sample ID: 2301376-002amsd	SampT	ype: MS	D	Tes	tCode: EF					
Client ID: BS23-02 4'	Batch	n ID: 725	577	F	RunNo: 93					
Prep Date: 1/11/2023	Analysis Date: 1/12/2023			SeqNo: 3391516 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	0.9814	0	84.4	68.8	120	0.720	20	
Toluene	0.84	0.049	0.9814	0	85.2	73.6	124	1.04	20	
Ethylbenzene	0.84	0.049	0.9814	0	85.1	72.7	129	0.197	20	
Xylenes, Total	2.5	0.098	2.944	0	84.7	75.7	126	1.24	20	
Surr: 4-Bromofluorobenzene	0.98		0.9814		99.4	70	130	0	0	

Sample ID: LCS-72577	Samp	ype: LC	S	Tes	tCode: EF	A Method				
Client ID: LCSS	Batcl	n ID: 725	577	F	RunNo: 93928					
Prep Date: 1/11/2023	Analysis [Analysis Date: 1/12/2023			SeqNo: 3391519 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	0.97	0.050	1.000	0	96.9	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.7	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.9	70	130			

Sample ID: mb-72577	SampT	уре: МЕ	BLK	Tes	TestCode: EPA Method 8021B: Volatiles					
Client ID: PBS	Batch ID: 72577			F	RunNo: 93928					
Prep Date: 1/11/2023	Analysis D	Analysis Date: 1/12/2023			SeqNo: 3391520			Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.5	70	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 6 of 6

Released to Imaging: 10/5/2023 9:14:51 AM

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:	Devon Ene	ergy	Work	Order Numb	er: 23013	76		RcptN	lo: 1
Received By:	Tracy Cas	sarrubias	1/11/20	23 7:35:00 A	M				
Completed By:	Tracy Cas	sarrubias	1/11/20	23 7:52:52 A	М				
Reviewed By:	sia ili	1/23							
Chain of Cust	ody								
1. Is Chain of Cu	stody comp	lete?			Yes		No 🗹	Not Present	
2. How was the s	sample deliv	vered?			Courie	er			
Log In 3. Was an attem	pt made to	cool the sam	ples?		Yes [<u>/</u>	No 🗌	na 🗆	
4. Were all samp	les received	l at a temper	ature of >0° C	to 6.0°C	Yes (/	No 🗌	NA 🗆	
5. Sample(s) in p	roper conta	iner(s)?			Yes [/	No 🗌		
6. Sufficient samp	ole volume f	or indicated	test(s)?		Yes 🛚		No 🗆		
7. Are samples (e	except VOA	and ONG) p	roperly preserve	ed?	Yes 🛚		No 🗌		
8. Was preservat	ive added to	bottles?			Yes		No 🗹	NA 🗆	
9. Received at lea	ast 1 vial wit	h headspace	e <1/4" for AQ V	OA?	Yes [No 🗌	na 🗹	
10. Were any sam	ple containe	ers received	broken?		Yes L		No 🗹	# of preserved bottles checked	
11.Does paperwor (Note discrepa			y)		Yes 🛭		No 🗌	for pH:	or >12 unless noted)
2. Are matrices co	orrectly iden	tified on Cha	in of Custody?		Yes 🛚		No 🗆	Adjusted?	
3. Is it clear what	analyses w	ere requeste	d?		Yes 🛚		No 🗌		
 Were all holdin (If no, notify cu) 	_)		Yes 🛚		No 🗆	Checked by:	Jn1/11/2
Special Handli	ng (if app	olicable)							
15. Was client not	ified of all d	iscrepancies	with this order?		Yes [No 🗌	NA 🗹	
Person I	Notified:			Date:	-				
By Who	n:			Via:	eMail		Phone 🗌 Fax	☐ In Person	
Regardir	ng:					-			
Client In	structions:				**************************************			*	
16. Additional ren	narks:								
17. Cooler Inform	nation								
Cooler No	Temp ⁰C	Condition		Seal No	Seal Dat	e	Signed By		
1	5.8	Good	Yes						

Received by OCD: 5/10/2023 2:45:22 PM

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Chain-of-Custody Record	Turn-Around Time: 48-1000	HAII FNVIRONMENTAI
Client: DeVon	☐ Standard W. Rush	
		www.hallenvironmental.com
Mailing Address: On Kill	Hackberrylo Fed I Well Pad	4901 Hawkins NE - Albuquerque, NM 87109
Ŋ	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:	776-07537	Analysis Request
email or Fax#:	Project Manager:	†OS
ige:	Chance Dixon	O [†] ' S
☐ Standard ☐ Level 4 (Full Validation)		.08 207 207 209
Accreditation:	Sampler: SPC	(L) DI () DI (
□ NELAC □ Other	On Ice: 🛒 Yes 🗆 No	OS- 3/86 30 (10 (8)
□ EDD (Type)	# of Coolers: 1 Mart	BE BOOK BOOK BARON NO COLUMN BARON (COLUMN BARON)
	Cooler Temp(including cr): 5.8 - 0 - 5.8	15L estideth yy 8- 8 M 3r, 3r,
	Preservative	TE \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
I ime Matrix	l ype	1 8 8 8 8 8 8 8
	4.03 lar (ce 00)	> >
10:50 " BS13-02 4"	1, 000	>
Date: Time: Relinquished by: 1/9/123 1750 Qulu (Antro)	Received by: Via: Date Time	Remarks: cc Kent Stulling
Relinquisped t	Via: Courr Date	Direct Bill
1000 1900 MANA	1/11/27	
sam	subcontracted to other accredited laboratories. This serves as no	redited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Released to Thingsing: 170/5/2023 9:14:STAM



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

OrderNo.: 2301461

January 17, 2023

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

FAX:

RE: Hackberry 6 Fed 1 Well Pad

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/12/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 1/17/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: WS23-27 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/10/2023 7:50:00 AM

 Lab ID:
 2301461-001
 Matrix: SOIL
 Received Date: 1/12/2023 7:35:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/13/2023 1:39:17 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/13/2023 1:39:17 PM
Surr: DNOP	105	69-147	%Rec	1	1/13/2023 1:39:17 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/13/2023 12:56:00 PM
Surr: BFB	101	37.7-212	%Rec	1	1/13/2023 12:56:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/13/2023 12:56:00 PM
Toluene	ND	0.049	mg/Kg	1	1/13/2023 12:56:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/13/2023 12:56:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/13/2023 12:56:00 PM
Surr: 4-Bromofluorobenzene	123	70-130	%Rec	1	1/13/2023 12:56:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	120	60	mg/Kg	20	1/13/2023 12:45:25 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 9

Date Reported: 1/17/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-03 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/10/2023 7:55:00 AM

 Lab ID:
 2301461-002
 Matrix: SOIL
 Received Date: 1/12/2023 7:35:00 AM

Analyses	Result	RL Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGAI	NICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.0	mg/Kg	1	1/13/2023 1:50:05 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/13/2023 1:50:05 PM
Surr: DNOP	106	69-147	%Rec	1	1/13/2023 1:50:05 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/13/2023 1:16:00 PM
Surr: BFB	105	37.7-212	%Rec	1	1/13/2023 1:16:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/13/2023 1:16:00 PM
Toluene	ND	0.050	mg/Kg	1	1/13/2023 1:16:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/13/2023 1:16:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/13/2023 1:16:00 PM
Surr: 4-Bromofluorobenzene	124	70-130	%Rec	1	1/13/2023 1:16:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	150	60	mg/Kg	20	1/13/2023 12:57:49 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 9

Date Reported: 1/17/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-04 4'

Project: Hackberry 6 Fed 1 Well Pad **Collection Date:** 1/10/2023 8:00:00 AM 2301461-003 Lab ID: Matrix: SOIL **Received Date:** 1/12/2023 7:35:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	13	9.0	mg/Kg	1	1/13/2023 2:00:57 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/13/2023 2:00:57 PM
Surr: DNOP	108	69-147	%Rec	1	1/13/2023 2:00:57 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/13/2023 1:35:00 PM
Surr: BFB	99.3	37.7-212	%Rec	1	1/13/2023 1:35:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/13/2023 1:35:00 PM
Toluene	ND	0.049	mg/Kg	1	1/13/2023 1:35:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/13/2023 1:35:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/13/2023 1:35:00 PM
Surr: 4-Bromofluorobenzene	121	70-130	%Rec	1	1/13/2023 1:35:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	790	60	mg/Kg	20	1/13/2023 1:10:13 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

Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated.

Analyte detected in the associated Method Blank

Above Quantitation Range/Estimated Value Ε

J Analyte detected below quantitation limits

Sample pH Not In Range

RL

Reporting Limit

Page 3 of 9

Date Reported: 1/17/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-05 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/10/2023 8:05:00 AM

 Lab ID:
 2301461-004
 Matrix: SOIL
 Received Date: 1/12/2023 7:35:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	NICS				Analyst: DGH
Diesel Range Organics (DRO)	24	8.9	mg/Kg	1	1/13/2023 2:22:22 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/13/2023 2:22:22 PM
Surr: DNOP	104	69-147	%Rec	1	1/13/2023 2:22:22 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/13/2023 1:55:00 PM
Surr: BFB	102	37.7-212	%Rec	1	1/13/2023 1:55:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/13/2023 1:55:00 PM
Toluene	ND	0.049	mg/Kg	1	1/13/2023 1:55:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/13/2023 1:55:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/13/2023 1:55:00 PM
Surr: 4-Bromofluorobenzene	122	70-130	%Rec	1	1/13/2023 1:55:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	1700	61	mg/Kg	20	1/13/2023 1:22:38 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

ple pH Not In Range
Orting Limit
Page 4 of 9

Date Reported: 1/17/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: WS23-29 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/10/2023 1:30:00 PM

 Lab ID:
 2301461-005
 Matrix: SOIL
 Received Date: 1/12/2023 7:35:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.0	mg/Kg	1	1/13/2023 2:54:22 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/13/2023 2:54:22 PM
Surr: DNOP	103	69-147	%Rec	1	1/13/2023 2:54:22 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/13/2023 2:15:00 PM
Surr: BFB	104	37.7-212	%Rec	1	1/13/2023 2:15:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/13/2023 2:15:00 PM
Toluene	ND	0.049	mg/Kg	1	1/13/2023 2:15:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/13/2023 2:15:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/13/2023 2:15:00 PM
Surr: 4-Bromofluorobenzene	120	70-130	%Rec	1	1/13/2023 2:15:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	140	61	mg/Kg	20	1/13/2023 1:59:51 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 9

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301461** *17-Jan-23*

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: MB-72612 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72612 RunNo: 93954

Prep Date: 1/13/2023 Analysis Date: 1/13/2023 SeqNo: 3392167 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72612 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72612 RunNo: 93954

Prep Date: 1/13/2023 Analysis Date: 1/13/2023 SeqNo: 3392168 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 96.1 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 6 of 9

Hall Environmental Analysis Laboratory, Inc.

2301461 17-Jan-23

WO#:

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: LCS-72610 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 72610 RunNo: 93948 Units: mg/Kg Prep Date: 1/13/2023 Analysis Date: 1/13/2023 SeqNo: 3392044 PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result LowLimit Qual Diesel Range Organics (DRO) 40 10 50.00 0 79.8 61.9 130

Surr: DNOP 5.3 5.000 107 69 147

Sample ID: MB-72610 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 72610 RunNo: 93948

Prep Date: Analysis Date: 1/13/2023 1/13/2023 SeqNo: 3392046 Units: mg/Kg

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

Motor Oil Range Organics (MRO) ND 50 Surr: DNOP 11 10.00 107 69 147

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 7 of 9

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301461**

17-Jan-23

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: Ics-72605	SampT	ype: LC	s	Tes	tCode: EF	PA Method	8015D: Gaso	ine Range		
Client ID: LCSS	Batch	n ID: 72 6	605	F	RunNo: 93	3931				
Prep Date: 1/12/2023	Analysis D)ate: 1/1	13/2023	5	SeqNo: 33	391419	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	72.3	137			
Surr: RER	2300		1000		228	37 7	212			S

Sample ID: mb-72605	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8015D: Gasol	ine Range		
Client ID: PBS	Batch	n ID: 72 6	605	F	RunNo: 93	3931				
Prep Date: 1/12/2023	Analysis D	ate: 1/	13/2023	5	SeqNo: 33	391577	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		103	37.7	212			

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

Page 8 of 9

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301461**

17-Jan-23

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: Ics-72605	Samp	Гуре: LC :	S	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	h ID: 72 6	605	F	RunNo: 93	3931				
Prep Date: 1/12/2023	Analysis [Date: 1/ 1	13/2023	5	SeqNo: 33	391420	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	114	80	120			
Toluene	1.2	0.050	1.000	0	116	80	120			
Ethylbenzene	1.2	0.050	1.000	0	115	80	120			
Xylenes, Total	3.5	0.10	3.000	0	115	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		122	70	130			

Sample ID: mb-72605	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batch	n ID: 72 6	605	F	RunNo: 93	3931				
Prep Date: 1/12/2023	Analysis D	Date: 1/	13/2023	5	SeqNo: 33	391578	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: 4-Bromofluorobenzene	1.2		1.000		122	70	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 9 of 9

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

Client Name: Devon Energy	Work Order Number: 23	301461	F	RcptNo: 1
Received By: Tracy Casarrubias	1/12/2023 7:35:00 AM			
Completed By: Tracy Casarrubias	1/12/2023 8:03:35 AM			
Reviewed By: JN 1/12/23				
Chain of Custody				
1. Is Chain of Custody complete?	Ye	es 🗌 No	Not Presen	ıt 🗆
2. How was the sample delivered?	<u>C</u> e	<u>ourier</u>		
Log In				_
3. Was an attempt made to cool the samples?	Υe	es 🗹 No	□ NA	A 🗆
4. Were all samples received at a temperature of	>0° C to 6.0°C Ye	es 🗹 No	□ NA	
5. Sample(s) in proper container(s)?	Ye	s 🗹 No		
6. Sufficient sample volume for indicated test(s)?	Ye	s 🗹 No		
7_{\cdot} Are samples (except VOA and ONG) properly p	reserved? Yes	s 🗹 No		
8. Was preservative added to bottles?	Ye	s 🗌 No	☑ NA	
9. Received at least 1 vial with headspace <1/4" fo	or AQ VOA? Yes	s 🗌 No	□ NA	$\overline{\mathbf{v}}$
0. Were any sample containers received broken?	Ye	s No	# of preserved	
Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes	s 🗹 No	bottles checke	
2. Are matrices correctly identified on Chain of Cus	stody? Yes	s ✓ No	☐ Adjusted	
3. Is it clear what analyses were requested?	Yes	s ✓ No		
4. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	No No	Checked	by: KPU 1-12-
pecial Handling (if applicable)				
15. Was client notified of all discrepancies with this	order? Ye	s 🗌 No	□ NA	. 🗹
Person Notified:	Date:			
By Whom:	Via: ☐ eN	Mail Phone	Fax In Person	
Regarding:				7
Client Instructions:				
6. Additional remarks:				
7. Cooler Information				
	Intact Seal No Seal I	Date Signed F	Ru	

Seal Date

Signed By

4.4

Condition

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		Mell www.nallenvironmental.com Pad pad 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975	Anal	†O:	DO [†] ' S SIWS D \ WE ≥ (805) ΒΕΟ 1 (1) 07Ω8 1 , _Ω Ο1	08/20 08/20 01 3 10 01 40 04 (A((GF) 9 bit 10 bi	15D estice by 83 9M 83 1, 18 AOv MOA	HEAL No. 10181 Co. 10181 C	1 8 9 8 8	700	003	h90	43				ime Rema	11/33 930 Direct Will Devon	
Turn-Around Time:	Project Name:	Hackberry lo Fed I pad	Project #: O	226-02834	Project Manager:	Chance Dixon	Sampler: 3PC	c∦ Yes	olers:	Cooler Temp(including CF): 4.3+	Container Preservative	Š	_	0	3	200			+	Received by: Via:	Chilling	Ĭ
Client: Dollow / 1/01/14 x)	(1010)	Mailing Address: \mathcal{M} \mathcal{H}	0	Phone #:	-ax#:	QA/QC Package:	T.				ote Time Matrix	23 7:50 Soil WS23-27 0-4'	1 8523-03 4'	8:00 8523 - 04 4'	8:05 8523 - 05 4'	13:30 1 NS23-29 0-4'					1/10/23/17:11 Roley Caretas	



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

January 19, 2023

Chance Dixon
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040

FAX:

RE: Hackberry 6 Fed 1 Well Pad OrderNo.: 2301522

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 20 sample(s) on 1/13/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-06 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 9:10:00 AM

 Lab ID:
 2301522-001
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/17/2023 9:29:03 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/17/2023 9:29:03 AM
Surr: DNOP	109	69-147	%Rec	1	1/17/2023 9:29:03 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/16/2023 2:22:00 PM
Surr: BFB	99.0	37.7-212	%Rec	1	1/16/2023 2:22:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 2:22:00 PM
Toluene	ND	0.048	mg/Kg	1	1/16/2023 2:22:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/16/2023 2:22:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/16/2023 2:22:00 PM
Surr: 4-Bromofluorobenzene	117	70-130	%Rec	1	1/16/2023 2:22:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	7100	300	mg/Kg	100	1/17/2023 10:06:31 AM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BS23-07 4'

Project: Hackberry 6 Fed 1 Well Pad **Collection Date:** 1/11/2023 9:15:00 AM 2301522-002 Lab ID: Matrix: SOIL Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/17/2023 9:55:44 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/17/2023 9:55:44 AM
Surr: DNOP	99.9	69-147	%Rec	1	1/17/2023 9:55:44 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/16/2023 3:21:00 PM
Surr: BFB	106	37.7-212	%Rec	1	1/16/2023 3:21:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/16/2023 3:21:00 PM
Toluene	ND	0.049	mg/Kg	1	1/16/2023 3:21:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/16/2023 3:21:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/16/2023 3:21:00 PM
Surr: 4-Bromofluorobenzene	116	70-130	%Rec	1	1/16/2023 3:21:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	1900	60	mg/Kg	20	1/16/2023 8:58:46 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated.

- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value Ε
- J Analyte detected below quantitation limits
- Sample pH Not In Range

RL Reporting Limit Page 2 of 24

Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-08 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 9:20:00 AM

 Lab ID:
 2301522-003
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	11	9.1	mg/Kg	1	1/17/2023 10:06:16 AM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/17/2023 10:06:16 AM
Surr: DNOP	101	69-147	%Rec	1	1/17/2023 10:06:16 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/16/2023 4:20:00 PM
Surr: BFB	93.1	37.7-212	%Rec	1	1/16/2023 4:20:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/16/2023 4:20:00 PM
Toluene	ND	0.049	mg/Kg	1	1/16/2023 4:20:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/16/2023 4:20:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/16/2023 4:20:00 PM
Surr: 4-Bromofluorobenzene	110	70-130	%Rec	1	1/16/2023 4:20:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	4200	150	mg/Kg	50	1/17/2023 10:18:51 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-09 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 9:25:00 AM

 Lab ID:
 2301522-004
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	9.6	9.3	mg/Kg	1	1/17/2023 10:16:50 AM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/17/2023 10:16:50 AM
Surr: DNOP	76.6	69-147	%Rec	1	1/17/2023 10:16:50 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/16/2023 4:40:00 PM
Surr: BFB	109	37.7-212	%Rec	1	1/16/2023 4:40:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 4:40:00 PM
Toluene	ND	0.048	mg/Kg	1	1/16/2023 4:40:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/16/2023 4:40:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/16/2023 4:40:00 PM
Surr: 4-Bromofluorobenzene	114	70-130	%Rec	1	1/16/2023 4:40:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	3000	150	mg/Kg	50	1/17/2023 10:31:11 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-10 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 9:30:00 AM

 Lab ID:
 2301522-005
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	15	9.8	mg/Kg	1	1/17/2023 10:27:22 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/17/2023 10:27:22 AM
Surr: DNOP	91.0	69-147	%Rec	1	1/17/2023 10:27:22 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/16/2023 4:59:00 PM
Surr: BFB	97.4	37.7-212	%Rec	1	1/16/2023 4:59:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/16/2023 4:59:00 PM
Toluene	ND	0.049	mg/Kg	1	1/16/2023 4:59:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/16/2023 4:59:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/16/2023 4:59:00 PM
Surr: 4-Bromofluorobenzene	111	70-130	%Rec	1	1/16/2023 4:59:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	6100	300	mg/Kg	100	1/17/2023 10:43:31 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-11 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 9:35:00 AM

 Lab ID:
 2301522-006
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/17/2023 10:37:57 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/17/2023 10:37:57 AM
Surr: DNOP	107	69-147	%Rec	1	1/17/2023 10:37:57 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/16/2023 5:19:00 PM
Surr: BFB	102	37.7-212	%Rec	1	1/16/2023 5:19:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/16/2023 5:19:00 PM
Toluene	ND	0.049	mg/Kg	1	1/16/2023 5:19:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/16/2023 5:19:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/16/2023 5:19:00 PM
Surr: 4-Bromofluorobenzene	116	70-130	%Rec	1	1/16/2023 5:19:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	7800	300	mg/Kg	100	1/17/2023 10:55:52 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-12 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 9:40:00 AM

 Lab ID:
 2301522-007
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/17/2023 10:48:50 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/17/2023 10:48:50 AM
Surr: DNOP	75.8	69-147	%Rec	1	1/17/2023 10:48:50 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/16/2023 5:39:00 PM
Surr: BFB	99.9	37.7-212	%Rec	1	1/16/2023 5:39:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 5:39:00 PM
Toluene	ND	0.048	mg/Kg	1	1/16/2023 5:39:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/16/2023 5:39:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/16/2023 5:39:00 PM
Surr: 4-Bromofluorobenzene	117	70-130	%Rec	1	1/16/2023 5:39:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	7000	300	mg/Kg	100	1/17/2023 11:08:12 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-13 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 9:45:00 AM

 Lab ID:
 2301522-008
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/17/2023 11:10:02 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/17/2023 11:10:02 AM
Surr: DNOP	109	69-147	%Rec	1	1/17/2023 11:10:02 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/16/2023 5:59:00 PM
Surr: BFB	98.0	37.7-212	%Rec	1	1/16/2023 5:59:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 5:59:00 PM
Toluene	ND	0.049	mg/Kg	1	1/16/2023 5:59:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/16/2023 5:59:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/16/2023 5:59:00 PM
Surr: 4-Bromofluorobenzene	114	70-130	%Rec	1	1/16/2023 5:59:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	5600	300	mg/Kg	100	1/17/2023 11:20:32 AM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-14 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 9:50:00 AM

 Lab ID:
 2301522-009
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	1/17/2023 11:20:39 AM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/17/2023 11:20:39 AM
Surr: DNOP	71.9	69-147	%Rec	1	1/17/2023 11:20:39 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/16/2023 6:18:00 PM
Surr: BFB	105	37.7-212	%Rec	1	1/16/2023 6:18:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 6:18:00 PM
Toluene	ND	0.049	mg/Kg	1	1/16/2023 6:18:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/16/2023 6:18:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/16/2023 6:18:00 PM
Surr: 4-Bromofluorobenzene	117	70-130	%Rec	1	1/16/2023 6:18:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	6500	300	mg/Kg	100	1/17/2023 11:32:53 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-15 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 9:55:00 AM

 Lab ID:
 2301522-010
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses** Analyst: **DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Diesel Range Organics (DRO) ND 9.5 mg/Kg 1 1/17/2023 11:41:48 AM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 1/17/2023 11:41:48 AM Surr: DNOP 85.2 69-147 %Rec 1 1/17/2023 11:41:48 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 1/16/2023 7:17:00 PM 4.8 mg/Kg 1 Surr: BFB 96.9 37.7-212 %Rec 1 1/16/2023 7:17:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 1/16/2023 7:17:00 PM 0.024 mg/Kg 1 Toluene ND 0.048 mg/Kg 1 1/16/2023 7:17:00 PM Ethylbenzene ND 0.048 mg/Kg 1 1/16/2023 7:17:00 PM Xylenes, Total ND 0.097 mg/Kg 1 1/16/2023 7:17:00 PM Surr: 4-Bromofluorobenzene 113 70-130 %Rec 1 1/16/2023 7:17:00 PM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride mg/Kg 1/17/2023 11:45:13 AM 12000 600 200

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-16 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 10:00:00 AM

 Lab ID:
 2301522-011
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses** Analyst: **DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Diesel Range Organics (DRO) ND 9.9 mg/Kg 1 1/17/2023 11:52:27 AM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/17/2023 11:52:27 AM Surr: DNOP 69.4 69-147 %Rec 1 1/17/2023 11:52:27 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 1/16/2023 7:37:00 PM 4.9 mg/Kg 1 Surr: BFB 100 37.7-212 %Rec 1 1/16/2023 7:37:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 1/16/2023 7:37:00 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/16/2023 7:37:00 PM Ethylbenzene ND 0.049 mg/Kg 1 1/16/2023 7:37:00 PM Xylenes, Total ND 0.098 mg/Kg 1 1/16/2023 7:37:00 PM Surr: 4-Bromofluorobenzene 115 70-130 %Rec 1 1/16/2023 7:37:00 PM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride mg/Kg 8300 300 100 1/17/2023 11:57:34 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-17 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 10:05:00 AM

 Lab ID:
 2301522-012
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	NICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/17/2023 1:09:48 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/17/2023 1:09:48 PM
Surr: DNOP	129	69-147	%Rec	1	1/17/2023 1:09:48 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/16/2023 7:57:00 PM
Surr: BFB	99.3	37.7-212	%Rec	1	1/16/2023 7:57:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 7:57:00 PM
Toluene	ND	0.048	mg/Kg	1	1/16/2023 7:57:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/16/2023 7:57:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/16/2023 7:57:00 PM
Surr: 4-Bromofluorobenzene	114	70-130	%Rec	1	1/16/2023 7:57:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	4600	150	mg/Kg	50	1/17/2023 12:34:36 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Not in Range ...mit Page 12 of 24

Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-18 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 11:00:00 AM

 Lab ID:
 2301522-013
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	NICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	1/17/2023 1:20:27 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/17/2023 1:20:27 PM
Surr: DNOP	125	69-147	%Rec	1	1/17/2023 1:20:27 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/16/2023 8:16:00 PM
Surr: BFB	100	37.7-212	%Rec	1	1/16/2023 8:16:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 8:16:00 PM
Toluene	ND	0.049	mg/Kg	1	1/16/2023 8:16:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/16/2023 8:16:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/16/2023 8:16:00 PM
Surr: 4-Bromofluorobenzene	117	70-130	%Rec	1	1/16/2023 8:16:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	8500	300	mg/Kg	100	1/17/2023 12:46:57 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-19 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 11:05:00 AM

 Lab ID:
 2301522-014
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: DGH
Diesel Range Organics (DRO)	26	9.3	mg/Kg	1	1/17/2023 1:31:06 PM
Motor Oil Range Organics (MRO)	67	46	mg/Kg	1	1/17/2023 1:31:06 PM
Surr: DNOP	113	69-147	%Rec	1	1/17/2023 1:31:06 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/16/2023 8:36:00 PM
Surr: BFB	101	37.7-212	%Rec	1	1/16/2023 8:36:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 8:36:00 PM
Toluene	ND	0.048	mg/Kg	1	1/16/2023 8:36:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/16/2023 8:36:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/16/2023 8:36:00 PM
Surr: 4-Bromofluorobenzene	114	70-130	%Rec	1	1/16/2023 8:36:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	6700	300	mg/Kg	100	1/17/2023 12:59:17 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-20 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 11:10:00 AM

 Lab ID:
 2301522-015
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: DGH
Diesel Range Organics (DRO)	31	10	mg/Kg	1	1/17/2023 1:41:47 PM
Motor Oil Range Organics (MRO)	71	50	mg/Kg	1	1/17/2023 1:41:47 PM
Surr: DNOP	99.2	69-147	%Rec	1	1/17/2023 1:41:47 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/16/2023 8:56:00 PM
Surr: BFB	103	37.7-212	%Rec	1	1/16/2023 8:56:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 8:56:00 PM
Toluene	ND	0.048	mg/Kg	1	1/16/2023 8:56:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/16/2023 8:56:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/16/2023 8:56:00 PM
Surr: 4-Bromofluorobenzene	116	70-130	%Rec	1	1/16/2023 8:56:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	9100	600	mg/Kg	200	1/17/2023 1:11:38 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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EPA METHOD 8021B: VOLATILES

Benzene

Toluene

Ethylbenzene

Analytical Report Lab Order 2301522

Date Reported: 1/19/2023

Analyst: CCM

1/16/2023 9:15:00 PM

1/16/2023 9:15:00 PM

1/16/2023 9:15:00 PM

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-21 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 11:15:00 AM

 Lab ID:
 2301522-016
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: **DGH** Diesel Range Organics (DRO) 11 10 mg/Kg 1 1/17/2023 1:52:31 PM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/17/2023 1:52:31 PM Surr: DNOP 107 69-147 %Rec 1 1/17/2023 1:52:31 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 1/16/2023 9:15:00 PM 4.8 mg/Kg 1 Surr: BFB 97.9 37.7-212 %Rec 1 1/16/2023 9:15:00 PM

Xylenes, Total	ND	0.095	mg/Kg	1	1/16/2023 9:15:00 PM
Surr: 4-Bromofluorobenzene	116	70-130	%Rec	1	1/16/2023 9:15:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	9200	300	mg/Kg	100	1/17/2023 1:23:58 PM

ND

ND

ND

0.024

0.048

0.048

mg/Kg

mg/Kg

mg/Kg

1

1

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
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-22 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 11:20:00 AM

 Lab ID:
 2301522-017
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	1/17/2023 2:03:13 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/17/2023 2:03:13 PM
Surr: DNOP	109	69-147	%Rec	1	1/17/2023 2:03:13 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/16/2023 9:35:00 PM
Surr: BFB	100	37.7-212	%Rec	1	1/16/2023 9:35:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/16/2023 9:35:00 PM
Toluene	ND	0.049	mg/Kg	1	1/16/2023 9:35:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/16/2023 9:35:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/16/2023 9:35:00 PM
Surr: 4-Bromofluorobenzene	118	70-130	%Rec	1	1/16/2023 9:35:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	6800	300	mg/Kg	100	1/17/2023 1:36:19 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-23 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 11:25:00 AM

 Lab ID:
 2301522-018
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/17/2023 2:13:56 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/17/2023 2:13:56 PM
Surr: DNOP	116	69-147	%Rec	1	1/17/2023 2:13:56 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/16/2023 9:55:00 PM
Surr: BFB	97.7	37.7-212	%Rec	1	1/16/2023 9:55:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 9:55:00 PM
Toluene	ND	0.048	mg/Kg	1	1/16/2023 9:55:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/16/2023 9:55:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/16/2023 9:55:00 PM
Surr: 4-Bromofluorobenzene	115	70-130	%Rec	1	1/16/2023 9:55:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	9000	300	mg/Kg	100	1/17/2023 1:48:40 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/19/2023

1/17/2023 2:01:01 PM

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-24 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 11:30:00 AM

 Lab ID:
 2301522-019
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: **DGH** Diesel Range Organics (DRO) ND 8.6 mg/Kg 1 1/17/2023 2:24:48 PM Motor Oil Range Organics (MRO) ND 43 mg/Kg 1 1/17/2023 2:24:48 PM Surr: DNOP 69-147 %Rec 1 1/17/2023 2:24:48 PM 119 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 1/16/2023 10:15:00 PM 4.9 mg/Kg 1 Surr: BFB 98.7 37.7-212 %Rec 1 1/16/2023 10:15:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 1/16/2023 10:15:00 PM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/16/2023 10:15:00 PM Ethylbenzene ND 0.049 mg/Kg 1 1/16/2023 10:15:00 PM Xylenes, Total ND 0.098 mg/Kg 1 1/16/2023 10:15:00 PM Surr: 4-Bromofluorobenzene 114 70-130 %Rec 1 1/16/2023 10:15:00 PM **EPA METHOD 300.0: ANIONS** Analyst: JMT

7400

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

Qualifiers:

Chloride

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

mg/Kg

100

300

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/19/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-25 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/11/2023 11:35:00 AM

 Lab ID:
 2301522-020
 Matrix: SOIL
 Received Date: 1/13/2023 7:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	28	8.6	mg/Kg	1	1/17/2023 2:35:42 PM
Motor Oil Range Organics (MRO)	51	43	mg/Kg	1	1/17/2023 2:35:42 PM
Surr: DNOP	116	69-147	%Rec	1	1/17/2023 2:35:42 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/16/2023 10:54:00 PM
Surr: BFB	102	37.7-212	%Rec	1	1/16/2023 10:54:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/16/2023 10:54:00 PM
Toluene	ND	0.048	mg/Kg	1	1/16/2023 10:54:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/16/2023 10:54:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/16/2023 10:54:00 PM
Surr: 4-Bromofluorobenzene	117	70-130	%Rec	1	1/16/2023 10:54:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	10000	590	mg/Kg	200	1/17/2023 2:13:21 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

opering Limit Page 20 of 24

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301522** *19-Jan-23*

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: MB-72640 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72640 RunNo: 93996

Prep Date: 1/16/2023 Analysis Date: 1/16/2023 SeqNo: 3393481 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72640 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72640 RunNo: 93996

Prep Date: 1/16/2023 Analysis Date: 1/16/2023 SeqNo: 3393482 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 95.0 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

2301522

WO#:

19-Jan-23

Client: Vertex Resources Services, Inc. Project: Hackberry 6 Fed 1 Well Pad

Sample ID:	2301522-001AMS	SampT	уре: М	6	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID:	BS23-06 4'	Batch	n ID: 72 6	38	F	RunNo: 94	1003				
Prep Date:	1/16/2023	Analysis D	ate: 1/	17/2023	5	SeqNo: 33	393666	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	Organics (DRO)	50	10	50.10	0	99.5	54.2	135			
Surr: DNOP		5.6		5.010		112	69	147			
Sample ID:	LCS-72638	SampT	ype: LC	s	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID:	LCSS	Batch	n ID: 72 6	38	F	RunNo: 94	1003				
Prep Date:	1/16/2023	Analysis D)ate: 1/	17/2023	S	SeqNo: 33	393687	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	Organics (DRO)	47	10	50.00	0	94.8	61.9	130			
Surr: DNOP		6.0		5.000		119	69	147			
Sample ID:	MB-72638	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Sample ID: Client ID:	MB-72638 PBS	•	ype: ME			tCode: EF RunNo: 9 4		8015M/D: Die	sel Range	Organics	
•		•	n ID: 72 6	638	F		1003	8015M/D: Die	J	Organics	
Client ID:	PBS	Batch	n ID: 72 6	538 17/2023	F	RunNo: 94 SeqNo: 33	1003		J	Organics RPDLimit	Qual
Client ID: Prep Date: Analyte	PBS	Batch Analysis D	n ID: 726 Date: 1/	538 17/2023	F	RunNo: 94 SeqNo: 33	1003 393688	Units: mg/K	(g	·	Qual
Client ID: Prep Date: Analyte Diesel Range C	PBS 1/16/2023	Batch Analysis D Result ND ND	n ID: 726 Date: 1/ PQL	538 17/2023 SPK value	F	RunNo: 94 SeqNo: 33 %REC	1003 393688 LowLimit	Units: mg/K HighLimit	(g	·	Qual
Client ID: Prep Date: Analyte Diesel Range C	PBS 1/16/2023 Drganics (DRO)	Batch Analysis D Result	PQL 10: 726	538 17/2023	F	RunNo: 94 SeqNo: 33	1003 393688	Units: mg/K	(g	·	Qual
Client ID: Prep Date: Analyte Diesel Range C Motor Oil Rang Surr: DNOP	PBS 1/16/2023 Drganics (DRO)	Batch Analysis D Result ND ND 12	PQL 10: 726	538 17/2023 SPK value 10.00	F SPK Ref Val	RunNo: 94 SeqNo: 33 %REC	4003 393688 LowLimit 69	Units: mg/K HighLimit	í g %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Motor Oil Rang Surr: DNOP	PBS 1/16/2023 Drganics (DRO) e Organics (MRO)	Batch Analysis D Result ND ND 12 SampT	PQL 10 10 10 10	538 17/2023 SPK value 10.00	SPK Ref Val	RunNo: 94 SeqNo: 33 %REC	4003 893688 LowLimit 69	Units: mg/K HighLimit	í g %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Motor Oil Rang Surr: DNOP Sample ID:	PBS 1/16/2023 Organics (DRO) e Organics (MRO)	Batch Analysis D Result ND ND 12 SampT	PQL 10 50 1D: 726 1D:	538 17/2023 SPK value 10.00 5D 538	SPK Ref Val Tes	RunNo: 94 SeqNo: 3: %REC 117 tCode: EF	4003 393688 LowLimit 69 PA Method 4003	Units: mg/K HighLimit	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Motor Oil Rang Surr: DNOP Sample ID: Client ID:	PBS 1/16/2023 Drganics (DRO) e Organics (MRO) 2301522-001AMSD BS23-06 4'	Batch Analysis E Result ND ND 12 SampT Batch	PQL 10 50 1D: 726 1D:	538 17/2023 SPK value 10.00 5D 538 17/2023	SPK Ref Val Tes	RunNo: 94 SeqNo: 33 %REC 117 tCode: EF RunNo: 94	4003 393688 LowLimit 69 PA Method 4003	Units: mg/K HighLimit 147 8015M/D: Die	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range Common Oil Rang Surr: DNOP Sample ID: Client ID: Prep Date: Analyte	PBS 1/16/2023 Drganics (DRO) e Organics (MRO) 2301522-001AMSD BS23-06 4'	Batch Analysis D Result ND ND 12 SampT Batch Analysis D	PQL 10 50 10: 726 10: 726 10: 726 10: 726 10: 726 10: 726 11:	538 17/2023 SPK value 10.00 5D 538 17/2023	SPK Ref Val Tes	RunNo: 94 SeqNo: 33 %REC 117 tCode: EF RunNo: 94 SeqNo: 33	4003 893688 LowLimit 69 PA Method 4003 894250	Units: mg/K HighLimit 147 8015M/D: Die Units: mg/K	%RPD	RPDLimit Organics	

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Limit

Page 22 of 24

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301522**

19-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

i rojeci.		/ O I Cu I										
Sample ID:	lcs-72620	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015D: Gaso	line Range			
Client ID:	LCSS	Batch	1D: 72 6	620	F	RunNo: 93975						
Prep Date:	1/13/2023	Analysis Date: 1/16/2023			5	SeqNo: 3393260			Units: mg/Kg			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	23	5.0	25.00	0	90.4	72.3	137				
Surr: BFB		2200		1000		222	37.7	212			S	
Sample ID:	mb-72620	SampT	SampType: MBLK TestCode: EPA Method				8015D: Gaso	line Range				
Client ID:	PBS	Batch	1D: 72 6	520	F	RunNo: 9	3975					
Prep Date:	1/13/2023	Analysis D	ate: 1/	16/2023	5	SeqNo: 3	393261	Units: mg/K	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	ND	5.0									
Surr: BFB		1100		1000		108	37.7	212				
Sample ID:	2301522-001ams	SampT	ype: MS	;	Tes	tCode: EF	PA Method	8015D: Gaso	line Range			
Client ID:	BS23-06 4'	Batch	1D: 72 6	520	F	RunNo: 9	3975					
Prep Date:	1/13/2023	Analysis D	ate: 1/	16/2023	9	SeqNo: 3	393263	Units: mg/K	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	22	4.8	23.79	0	93.6	70	130				
Surr: BFB		2200		951.5		226	37.7	212			S	
Sample ID:	2301522-001amsd	SampT	ype: MS	SD .	Tes	tCode: EF	PA Method	8015D: Gaso	line Range	_	-	
Client ID:	BS23-06 4'	Batch	Batch ID: 72620			RunNo: 93975						

Client ID: BS23-06 4'	BS23-06 4' Batch ID: 72620			F	RunNo: 93975					
Prep Date: 1/13/2023	Analysis D	ate: 1/	16/2023	5	SeqNo: 33	393264	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.95	0	93.2	70	130	0.240	20	
Surr: BFB	2200		957.9		226	37.7	212	0	0	S

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 23 of 24

Hall Environmental Analysis Laboratory, Inc.

WO#: 2301522

19-Jan-23

Client: Vertex Resources Services, Inc. **Project:** Hackberry 6 Fed 1 Well Pad

Sample ID: Ics-72620	Samp1	ype: LC :	S	Tes	tCode: EF	PA Method	l 8021B: Volatiles				
Client ID: LCSS	Batcl	n ID: 72 6	520	F	RunNo: 93	3975					
Prep Date: 1/13/2023	Analysis D	Date: 1/1	16/2023	5	SeqNo: 33	393292	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.1	0.025	1.000	0	112	80	120				
Toluene	1.1	0.050	1.000	0	114	80	120				
Ethylbenzene	1.1	0.050	1.000	0	114	80	120				
Xylenes, Total	3.4	0.10	3.000	0	114	80	120				
Surr: 4-Bromofluorobenzene	1.2		1.000		119	70	130				

Sample ID: mb-72620	SampT	уре: МЕ	BLK	TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batcl	n ID: 72 6	520	F	RunNo: 93	3975					
Prep Date: 1/13/2023	Analysis D	Date: 1/	16/2023	5	SeqNo: 33	393293	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.025			<u> </u>	<u> </u>		<u> </u>			
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	1.2		1.000		119	70	130				

Sample ID: 2301522-002ams	Samp	Гуре: МЅ	3	Tes	tCode: EF	PA Method	8021B: Volati	les			
Client ID: BS23-07 4'	Batc	h ID: 72 6	520	F	RunNo: 93	3975					
Prep Date: 1/13/2023	Analysis [Date: 1/	16/2023	9	SeqNo: 33	393298	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.1	0.024	0.9643	0	109	68.8	120				
Toluene	1.1	0.048	0.9643	0	111	73.6	124				
Ethylbenzene	1.1	0.048	0.9643	0	112	72.7	129				
Xylenes, Total	3.2	0.096	2.893	0	112	75.7	126				
Surr: 4-Bromofluorobenzene	1.1		0.9643		114	70	130				

Sample ID: 2301522-002amsd	SampT	SampType: MSD TestCode: EPA Method 8021B: Volatiles										
Client ID: BS23-07 4'	Batch ID: 72620 RunNo: 93975					975	;					
Prep Date: 1/13/2023	Analysis D	ate: 1/1	16/2023 SeqNo: 3393299 Units: mg/Kg									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	1.0	0.024	0.9785	0	105	68.8	120	1.95	20			
Toluene	1.1	0.049	0.9785	0	109	73.6	124	0.775	20			
Ethylbenzene	1.1	0.049	0.9785	0	110	72.7	129	0.662	20			
Xylenes, Total	3.2	0.098	2.935	0	110	75.7	126	0.462	20			
Surr: 4-Bromofluorobenzene	1.1		0.9785		117	70	130	0	0			

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE

Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

Client Name: Vertex Resources Services, Inc.	Work Order Number:	2301	522			RcptNo:	1
Received By: Juan Rojas 1/	13/2023 7:40:00 AM			Glean	9		
Completed By: Sean Livingston 1/	13/2023 8:03:38 AM			5	_L	not	
Reviewed By: Jn 13/23				<u> </u>		0-	
Chain of Custody							
1. Is Chain of Custody complete?		Yes	~	No		Not Present	
2. How was the sample delivered?		Couri	<u>ier</u>				
<u>Log In</u>							
3. Was an attempt made to cool the samples?		Yes	✓	No		na 🗌	
4. Were all samples received at a temperature of >	0° C to 6.0°C	Yes	V	No		na 🗆	
5. Sample(s) in proper container(s)?		Yes	V	No			
6. Sufficient sample volume for indicated test(s)?		Yes	V	No l			
7. Are samples (except VOA and ONG) properly pre	eserved?	Yes	V	No [
8. Was preservative added to bottles?		Yes		No	V	na 🗆	
9. Received at least 1 vial with headspace <1/4" for	AQ VOA?	Yes		No [NA 🗹	
10. Were any sample containers received broken?		Yes		No		# of preserved bottles checked	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes	V	No		for pH:	>12 unless noted)
2. Are matrices correctly identified on Chain of Cust	ody?	Yes	✓	No [- 1	Adjusted?	
3. Is it clear what analyses were requested?		Yes		No [2		.0
4. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	✓	No l	_	Checked by:	W. 113.
Special Handling (if applicable)							
15. Was client notified of all discrepancies with this o	order?	Yes		No		NA 🗹	
Person Notified:	Date:		NAT SALES AFFIRS	dayment to secure		-	
By Whom:	Via:] eMa	il 🗌 l	Phone 🗌	Fax	☐ In Person	
Regarding:				_			
Client Instructions:							
16. Additional remarks:							
17. Cooler Information							
Cooler No Temp °C Condition Seal Ir 1 0.3 Good Not Pre		eal Da	ite	Signed B	у		
	sent YOGI		- E				

O	Cilalii-Oi-Custouy Necolu		HALL ENVIRONMENTAL
Client: Devon (Vertex)	a)	Standard Rush 46 M	
		Project Name:	www.hallenvironmental.com
Mailing Address: 01 Lil.	7.	Hackberry up ted I will tod	4901 Hawkins NE - Albuquerque, NM 87109
0		Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:		NE-02537	Analysis Request
email or Fax#:		Project Manager:	†OS
ige:	: : :	Chance Dixon	oO⁴' a SIMS
☐ Standard	□ Level 4 (Full Validation)		75. F
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□ NELAC □ Other			PCOP(1) 01 01 01 01 01 01 01 01 01 01 01 01 01
□ EDD (Type)		# of Coolers: You si	TBE cide od 31(G nO n)
		Cooler Temp(including CF): 0.3-0 = 0. 3 (°	15C estii 9y 8 8 M 8 M 3r, 3r,
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9:20	BS23 - 08 4'	9	
9:25		700	
9:30	BS23-10 4'	3C0	
	BS23-11 4'	200	
9:40	BS23-12 4'	F00	
70		500	
9:50	_	200	
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	BS23-16 4'	110	
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Released to Imaging: 10.572023 9:14:51/27/1/2012 9:14:51/27/2012 9:14:51/2

Received by OCD: 5/10/2023 2:45:22 PM

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Released to Imaging: 10/3/2/2/2/3/6/14! Fixtro/mantal may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

OrderNo.: 2301574

January 25, 2023

Chance Dixon
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040

FAX

RE: Hackberry 6 Fed 1 Well Pad

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 10 sample(s) on 1/17/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-30 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/12/2023 8:05:00 AM

 Lab ID:
 2301574-001
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Result **RL Qual Units** DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: DGH Diesel Range Organics (DRO) ND 9.6 mg/Kg 1 1/18/2023 11:54:48 AM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 1/18/2023 11:54:48 AM 69-147 Surr: DNOP 89.8 %Rec 1 1/18/2023 11:54:48 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 1/18/2023 11:19:00 AM 5.0 mg/Kg 1 Surr: BFB 96.4 37.7-212 %Rec 1 1/18/2023 11:19:00 AM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 0.025 mg/Kg 1/18/2023 11:19:00 AM 1 Toluene ND 0.050 mg/Kg 1 1/18/2023 11:19:00 AM Ethylbenzene ND 0.050 mg/Kg 1 1/18/2023 11:19:00 AM Xylenes, Total ND 0.099 mg/Kg 1 1/18/2023 11:19:00 AM Surr: 4-Bromofluorobenzene 94.2 70-130 %Rec 1 1/18/2023 11:19:00 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride 740 60 1/17/2023 3:40:16 PM ma/Ka 20

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 14

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-34 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/12/2023 10:15:00 AM

 Lab ID:
 2301574-002
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	1/18/2023 12:05:21 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/18/2023 12:05:21 PM
Surr: DNOP	136	69-147	%Rec	1	1/18/2023 12:05:21 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/18/2023 12:18:00 PM
Surr: BFB	99.4	37.7-212	%Rec	1	1/18/2023 12:18:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/18/2023 12:18:00 PM
Toluene	ND	0.048	mg/Kg	1	1/18/2023 12:18:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/18/2023 12:18:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/18/2023 12:18:00 PM
Surr: 4-Bromofluorobenzene	95.2	70-130	%Rec	1	1/18/2023 12:18:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	540	60	mg/Kg	20	1/17/2023 4:17:19 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

QL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 14

Surr: 4-Bromofluorobenzene

EPA METHOD 300.0: ANIONS

Chloride

Analytical Report Lab Order 2301574

Date Reported: 1/25/2023

1/18/2023 1:16:00 PM

1/17/2023 5:19:03 PM

Analyst: JMT

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-37 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/12/2023 1:30:00 PM

 Lab ID:
 2301574-003
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Result **RL Qual Units** DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: DGH Diesel Range Organics (DRO) ND 9.7 mg/Kg 1 1/18/2023 12:15:58 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/18/2023 12:15:58 PM 69-147 Surr: DNOP 117 %Rec 1 1/18/2023 12:15:58 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 1/18/2023 1:16:00 PM 4.8 mg/Kg 1 Surr: BFB 93.0 37.7-212 %Rec 1 1/18/2023 1:16:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 1/18/2023 1:16:00 PM 0.024 mg/Kg 1 Toluene ND 0.048 mg/Kg 1 1/18/2023 1:16:00 PM Ethylbenzene ND 0.048 mg/Kg 1 1/18/2023 1:16:00 PM Xylenes, Total ND 0.097 mg/Kg 1 1/18/2023 1:16:00 PM

88.7

730

70-130

60

%Rec

ma/Ka

1

20

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-38 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/12/2023 1:40:00 PM

 Lab ID:
 2301574-004
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	1/18/2023 12:26:36 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/18/2023 12:26:36 PM
Surr: DNOP	114	69-147	%Rec	1	1/18/2023 12:26:36 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/18/2023 1:36:00 PM
Surr: BFB	89.1	37.7-212	%Rec	1	1/18/2023 1:36:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/18/2023 1:36:00 PM
Toluene	ND	0.049	mg/Kg	1	1/18/2023 1:36:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/18/2023 1:36:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/18/2023 1:36:00 PM
Surr: 4-Bromofluorobenzene	89.0	70-130	%Rec	1	1/18/2023 1:36:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	780	60	mg/Kg	20	1/17/2023 5:31:23 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Benzene

Toluene

Chloride

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

EPA METHOD 300.0: ANIONS

Analytical Report Lab Order 2301574

Date Reported: 1/25/2023

1/18/2023 1:56:00 PM

1/18/2023 1:56:00 PM

1/18/2023 1:56:00 PM

1/18/2023 1:56:00 PM 1/18/2023 1:56:00 PM

1/17/2023 5:43:44 PM

Analyst: JMT

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-39 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/12/2023 1:55:00 PM

 Lab ID:
 2301574-005
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Result **RL Qual Units** DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: DGH Diesel Range Organics (DRO) ND 9.8 mg/Kg 1 1/18/2023 12:47:51 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/18/2023 12:47:51 PM 69-147 Surr: DNOP 106 %Rec 1 1/18/2023 12:47:51 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 1/18/2023 1:56:00 PM 4.8 mg/Kg 1 Surr: BFB 93.8 37.7-212 %Rec 1 1/18/2023 1:56:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM

ND

ND

ND

ND

90.3

100

0.024

0.048

0.048

0.096

70-130

61

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

ma/Ka

1

1

1

1

1

20

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-40 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/12/2023 2:00:00 PM

 Lab ID:
 2301574-006
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/18/2023 12:58:28 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/18/2023 12:58:28 PM
Surr: DNOP	121	69-147	%Rec	1	1/18/2023 12:58:28 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/18/2023 2:15:00 PM
Surr: BFB	93.1	37.7-212	%Rec	1	1/18/2023 2:15:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/18/2023 2:15:00 PM
Toluene	ND	0.048	mg/Kg	1	1/18/2023 2:15:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/18/2023 2:15:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/18/2023 2:15:00 PM
Surr: 4-Bromofluorobenzene	91.4	70-130	%Rec	1	1/18/2023 2:15:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	ND	61	mg/Kg	20	1/17/2023 5:56:04 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-41 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/13/2023 9:25:00 AM

 Lab ID:
 2301574-007
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/18/2023 1:09:06 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/18/2023 1:09:06 PM
Surr: DNOP	101	69-147	%Rec	1	1/18/2023 1:09:06 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/18/2023 2:35:00 PM
Surr: BFB	90.4	37.7-212	%Rec	1	1/18/2023 2:35:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/18/2023 2:35:00 PM
Toluene	ND	0.049	mg/Kg	1	1/18/2023 2:35:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/18/2023 2:35:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/18/2023 2:35:00 PM
Surr: 4-Bromofluorobenzene	92.8	70-130	%Rec	1	1/18/2023 2:35:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	79	60	mg/Kg	20	1/17/2023 6:08:25 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

ple pH Not In Range Page 7 of 14

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS23-42 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/13/2023 11:15:00 AM

 Lab ID:
 2301574-008
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/18/2023 1:19:48 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/18/2023 1:19:48 PM
Surr: DNOP	82.6	69-147	%Rec	1	1/18/2023 1:19:48 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/18/2023 2:55:00 PM
Surr: BFB	97.4	37.7-212	%Rec	1	1/18/2023 2:55:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/18/2023 2:55:00 PM
Toluene	ND	0.048	mg/Kg	1	1/18/2023 2:55:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/18/2023 2:55:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/18/2023 2:55:00 PM
Surr: 4-Bromofluorobenzene	92.2	70-130	%Rec	1	1/18/2023 2:55:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	170	60	mg/Kg	20	1/17/2023 6:20:46 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

porting Limit Page 8 of 14

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-26 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/13/2023 1:25:00 PM

 Lab ID:
 2301574-009
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	73	9.5	mg/Kg	1	1/18/2023 1:30:26 PM
Motor Oil Range Organics (MRO)	100	47	mg/Kg	1	1/18/2023 1:30:26 PM
Surr: DNOP	72.0	69-147	%Rec	1	1/18/2023 1:30:26 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/18/2023 3:14:00 PM
Surr: BFB	96.0	37.7-212	%Rec	1	1/18/2023 3:14:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/18/2023 3:14:00 PM
Toluene	ND	0.047	mg/Kg	1	1/18/2023 3:14:00 PM
Ethylbenzene	ND	0.047	mg/Kg	1	1/18/2023 3:14:00 PM
Xylenes, Total	ND	0.095	mg/Kg	1	1/18/2023 3:14:00 PM
Surr: 4-Bromofluorobenzene	93.1	70-130	%Rec	1	1/18/2023 3:14:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	3500	150	mg/Kg	50	1/18/2023 9:01:33 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-27 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/13/2023 1:30:00 PM

 Lab ID:
 2301574-010
 Matrix: SOIL
 Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	64	10	mg/Kg	1	1/18/2023 2:23:43 PM
Motor Oil Range Organics (MRO)	90	50	mg/Kg	1	1/18/2023 2:23:43 PM
Surr: DNOP	84.2	69-147	%Rec	1	1/18/2023 2:23:43 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/18/2023 3:34:00 PM
Surr: BFB	95.2	37.7-212	%Rec	1	1/18/2023 3:34:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/18/2023 3:34:00 PM
Toluene	ND	0.048	mg/Kg	1	1/18/2023 3:34:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/18/2023 3:34:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/18/2023 3:34:00 PM
Surr: 4-Bromofluorobenzene	97.4	70-130	%Rec	1	1/18/2023 3:34:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	5100	300	mg/Kg	100	1/24/2023 4:40:20 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

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301574 25-Jan-23**

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: MB-72659 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72659 RunNo: 94007

Prep Date: 1/17/2023 Analysis Date: 1/17/2023 SeqNo: 3393988 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72659 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: **LCSS** Batch ID: **72659** RunNo: **94007**

Prep Date: 1/17/2023 Analysis Date: 1/17/2023 SeqNo: 3393989 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.7 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301574 25-Jan-23**

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: LCS-72651	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 72651	RunNo: 94027
Prep Date: 1/17/2023	Analysis Date: 1/18/2023	SeqNo: 3394468 Units: mg/Kg
Analyte	Result PQL SPK value S	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

 Diesel Range Organics (DRO)
 44
 10
 50.00
 0
 88.9
 61.9
 130

 Surr: DNOP
 5.6
 5.000
 112
 69
 147

Sample ID: MB-72651 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS Batch ID: 72651 RunNo: 94027

Prep Date: 1/17/2023 Analysis Date: 1/18/2023 SeqNo: 3394470 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50 Surr: DNOP 11 10.00 108 69 147

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

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Hall Environmental Analysis Laboratory, Inc.

2301574 25-Jan-23

Qual

WO#:

RPDLimit

%RPD

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

 Sample ID:
 Ics-72649
 SampType:
 LCS
 TestCode:
 EPA Method 8015D:
 Gasoline Range

 Client ID:
 LCSS
 Batch ID:
 72649
 RunNo:
 94040

 Prep Date:
 1/17/2023
 Analysis Date:
 1/18/2023
 SeqNo:
 3394797
 Units:
 mg/Kg

PQL SPK value SPK Ref Val HighLimit Analyte Result %REC LowLimit 25.00 Gasoline Range Organics (GRO) 21 5.0 Λ 83.7 72.3 137 Surr: BFB 2000 1000 200 37.7 212

Sample ID: mb-72649 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 72649 RunNo: 94040

Prep Date: 1/17/2023 Analysis Date: 1/18/2023 SeqNo: 3394799 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
 960
 1000
 96.0
 37.7
 212

Sample ID: 2301574-001ams SampType: MS TestCode: EPA Method 8015D: Gasoline Range

Client ID: W\$23-30 0-4' Batch ID: 72649 RunNo: 94040

Prep Date: 1/17/2023 Analysis Date: 1/18/2023 SeqNo: 3394801 Units: mg/Kg

HighLimit Result SPK value SPK Ref Val %RPD **RPDLimit** Analyte POI %REC LowLimit Qual Gasoline Range Organics (GRO) 22 4.8 24.22 0 89.7 70 130 Surr: BFB 2000 969.0 209 37.7 212

Sample ID: 2301574-001amsd SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: WS23-30 0-4' Batch ID: 72649 RunNo: 94040

Prep Date: 1/17/2023 Analysis Date: 1/18/2023 SeqNo: 3394802 Units: mg/Kg

SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Result PQL LowLimit Qual Gasoline Range Organics (GRO) 24 4.9 95.4 70 8.09 24.70 130 20 Surr: BFB 2200 988.1 218 37.7 212 0 0 S

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301574 25-Jan-23**

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: Ics-72649	Samp1	Гуре: LC	s	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batcl	h ID: 72 6	649	F	RunNo: 94	4040				
Prep Date: 1/17/2023	Analysis [Date: 1/	18/2023	8	SeqNo: 3	395112	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.0	80	120			
Toluene	0.96	0.050	1.000	0	96.1	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.9	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.5	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		94.5	70	130			

Sample ID: mb-72649	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batcl	n ID: 72 0	649	F	RunNo: 9	4040				
Prep Date: 1/17/2023	Analysis D	Date: 1/	18/2023	8	SeqNo: 3	395113	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: 4-Bromofluorobenzene	0.93		1.000		93.3	70	130			

Sample ID: 2301574-002ams	SampType: MS			Tes							
Client ID: WS23-34 0-4'	Batcl	h ID: 72 0	649	F	4040						
Prep Date: 1/17/2023	Analysis D	Date: 1/	18/2023	SeqNo: 3395116			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.89	0.024	0.9634	0	92.8	68.8	120				
Toluene	0.90	0.048	0.9634	0	93.7	73.6	124				
Ethylbenzene	0.90	0.048	0.9634	0	93.3	72.7	129				
Xylenes, Total	2.7	0.096	2.890	0	92.7	75.7	126				
Surr: 4-Bromofluorobenzene	0.89		0.9634		92.7	70	130				

Sample ID: 2301574-002amso	d SampT	SampType: MSD TestCode: EPA Method 8				8021B: Volat	tiles			
Client ID: WS23-34 0-4'	Batch	n ID: 72 6	649	F	RunNo: 9	4040				
Prep Date: 1/17/2023	Analysis D	ate: 1/	18/2023	S	SeqNo: 3	395117	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9615	0	92.6	68.8	120	0.488	20	
Toluene	0.90	0.048	0.9615	0	94.0	73.6	124	0.0526	20	
Ethylbenzene	0.90	0.048	0.9615	0	94.0	72.7	129	0.529	20	
Xylenes, Total	2.7	0.096	2.885	0	93.5	75.7	126	0.716	20	
Surr: 4-Bromofluorobenzene	0.89		0.9615		92.4	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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

		<i>W</i>	osne: www.	.nauenvironmei 	nai.com		
Client Name: Vertex F Services	Resources s, Inc.	Work C	rder Numb	er: 2301574		RcptNo	: 1
Received By: Juan R	ojas	1/17/2023	3 7:45:00 A	M	Guarage Sal		
Completed By: Sean L	ivingston	1/17/2023	3 7:50:16 A	М	5/	nat	
Reviewed By: Reviewed By:	1.1-	1.23					
Chain of Custody							
1. Is Chain of Custody co	mplete?			Yes 🗹	No 🗌	Not Present	
2. How was the sample d	elivered?			Courier			
<u>Log In</u>							
3. Was an attempt made	to cool the samp	les?		Yes 🗹	No 🗀	NA 🗌	
4. Were all samples receive	ed at a tempera	ture of >0° C to	6.0°C	Yes 🗹	No 🗆	na 🗆	
5. Sample(s) in proper con	ntainer(s)?			Yes 🗹	No 🗌		
6. Sufficient sample volum	e for indicated te	est(s)?		Yes 🗹	No 🗌		
7. Are samples (except VC	OA and ONG) pro	operly preserved	?	Yes 🗹	No 🗌		
8. Was preservative added	to bottles?			Yes 🗌	No 🗹	NA 🗌	
9. Received at least 1 vial	with headspace	<1/4" for AQ VC	A?	Yes 🗌	No 🗌	NA 🗹	
10. Were any sample conta	niners received b	roken?		Yes	No 🗹	# of preserved	
11. Does paperwork match (Note discrepancies on)		Yes 🗹	No 🗆	bottles checked for pH: (<2 or	>12 unless noted)
12. Are matrices correctly id	lentified on Chai	n of Custody?		Yes 🗹	No 🗆	Adjusted?	
13. Is it clear what analyses	were requested	?		Yes 🗹	No □		- 1-1
Were all holding times a (If no, notify customer for				Yes 🗹	No 🗆	Checked by:	JV117/2
Special Handling (if a							
15. Was client notified of a	l discrepancies v	with this order?		Yes 🗌	No 🗌	NA 🗹	
Person Notified:			Date:				
By Whom:			Via:	eMail [] Phone \square Fax	In Person	
Regarding:		14 000 000					
Client Instructions	s: [To the Party of th				
16. Additional remarks:							
17. Cooler Information							
Cooler No Temp	C Condition	4	Seal No	Seal Date	Signed By		
1 2.9	Good	Not Present M	lorty				

Received by OCD: 5/10/2023 2:45:22 PM

Chain-of-Custody Record	Turn-Around Time:	HALL ENVIRONMENTAL
Client: COULD (Vertex)	□ Standard ☑ Rush +8 M	ANALYSIS LABORATORY
	Project Name:	www.hallenvironmental.com
Mailing Address: ON Kill	Hackberry, le Fed I Well Pad	4901 Hawkins NE - Albuquerque, NM 87109
	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:	22E = 02537	sis Requ
email or Fax#:	Project Manager:	OS S
OA/OC Package: □ Standard □ Level 4 (Full Validation)	Chan	5' PO4;
□ Az Cor □ Other	Sampler: SPC On Ice: APYes D No	90 \ DR 908/8088 504.1) 10 or 827 18
□ EDD (Type)	# of Coolers: Morty	cide cided 31(leta (AC
	Cooler Temp(including cr): 7.8+6.152.5 (°C)	ol 5/15/15/15/15/15/15/15/15/15/15/15/15/15
Time Matrix Sample Name	Container Preservative HEAL No.	PAHs RCRA 8260 (8260 (
29:05 Chi	404 iar 1CE	
I WS 23-34	-	
	4' 003	
82-51 SM	1	
	4, 1 1 2	
	A STATE OF THE STA	
	The state of the s	
Date: Time: Relinquished by: (17/2) [7:10 Sally.	Received by: Via: Date Time	Remarks: Direct bill Devon
Relinquished by:	Viaz Date T	108101 to01 #0M
12/000	14 ESIE11780118	1
This and additional	7 f	is possibility. Any sub-contracted data will be clearly notated on the analytical report.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice Released to Imaging: 10/5/2023 9:14:51 AM

Chain-of-Custody Record	Turn-Around Time:	TALL ENVIDONMENT	IVE
Client: Devon (Vertex)	Standard VRush 46 MS		TORY
	Project Name:	www.hallenvironment	
Mailing Address: AM 110	- Hackberry Lo Fed I well tod	4901 Hawk	
	Project #: 0	Tel. 505-345-3975	
Phone #:	12E-01537	Anal	STATE OF THE STATE
email or Fax#:	Project Manager:	†OS	
QA/QC Package: □ Standard □ Level 4 (Full Validation)	Chance Dixon	8's (802 PCB's PCB's	
Accreditation: Az Compliance	spc spc	NO ₂ ;	
□ NELAC □ Other	On Ice: Bres INo	OA 88/8e 504 10 or 11 , ₈ (
□ EDD (Type)	# of Coolers: 1 Mart	cide cide 310 ()	
	Cooler Temp(including cF): 2,846.)=	on Sem Sem Sem Sem Sem Sem	
Date Time Matrix Sample Name	Container Preservative HEAL No.	BTEX 8260 (8081 PPHS I PPHS I PPHS I PPHS I PPHS I PPHS I PPHS I	
29:25 Soil	3		
		9.0	=-
	5		
1 (3:30 8523-27 4'	110		
	2		
	7		
Ř	Via: Date	Time Remarks:	
123 14:30	110/13	0	
ဆို	Date	M0#	
1000 [clumy	17-57/EIN NUOO	tis cc: scartfar & vertor:ca	
D. 12.2.2.1 Line essant, samples submitted to Hall Environmental may be sui	subcontracted to other accredited laboratories. This serves as	Dark Degessan, Samples Authorities to 时间 Epvironmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.	report.

Released to Imagnig: 10/5/2023 9:14:51 AM



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

January 24, 2023

Chance Dixon
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040

FAX:

RE: Hackberry 6 Fed 1 Well Pad OrderNo.: 2301631

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 20 sample(s) on 1/18/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-28 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 9:30:00 AM

 Lab ID:
 2301631-001
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	220	9.4	mg/Kg	1	1/19/2023 7:02:40 PM
Motor Oil Range Organics (MRO)	260	47	mg/Kg	1	1/19/2023 7:02:40 PM
Surr: DNOP	97.1	69-147	%Rec	1	1/19/2023 7:02:40 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/19/2023 10:21:45 PM
Surr: BFB	99.8	37.7-212	%Rec	1	1/19/2023 10:21:45 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/19/2023 10:21:45 PM
Toluene	ND	0.049	mg/Kg	1	1/19/2023 10:21:45 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/19/2023 10:21:45 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/19/2023 10:21:45 PM
Surr: 4-Bromofluorobenzene	92.9	70-130	%Rec	1	1/19/2023 10:21:45 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	2600	150	mg/Kg	50	1/20/2023 11:24:42 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 24

Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-29 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 9:35:00 AM

 Lab ID:
 2301631-002
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG				Analyst: DGH	
Diesel Range Organics (DRO)	170	9.5	mg/Kg	1	1/19/2023 8:47:31 PM
Motor Oil Range Organics (MRO)	210	47	mg/Kg	1	1/19/2023 8:47:31 PM
Surr: DNOP	107	69-147	%Rec	1	1/19/2023 8:47:31 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/19/2023 11:31:10 PM
Surr: BFB	99.6	37.7-212	%Rec	1	1/19/2023 11:31:10 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/19/2023 11:31:10 PM
Toluene	ND	0.049	mg/Kg	1	1/19/2023 11:31:10 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/19/2023 11:31:10 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/19/2023 11:31:10 PM
Surr: 4-Bromofluorobenzene	94.4	70-130	%Rec	1	1/19/2023 11:31:10 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	3000	150	mg/Kg	50	1/20/2023 11:37:04 AM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 24

Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BS23-30 4'

Project: Hackberry 6 Fed 1 Well Pad **Collection Date:** 1/16/2023 9:40:00 AM 2301631-003 Lab ID: Matrix: SOIL Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS					Analyst: DGH
Diesel Range Organics (DRO)	310	98		mg/Kg	10	1/19/2023 12:58:00 PM
Motor Oil Range Organics (MRO)	520	490		mg/Kg	10	1/19/2023 12:58:00 PM
Surr: DNOP	0	69-147	S	%Rec	10	1/19/2023 12:58:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/20/2023 12:40:35 AM
Surr: BFB	100	37.7-212		%Rec	1	1/20/2023 12:40:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	1/20/2023 12:40:35 AM
Toluene	ND	0.048		mg/Kg	1	1/20/2023 12:40:35 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/20/2023 12:40:35 AM
Xylenes, Total	ND	0.096		mg/Kg	1	1/20/2023 12:40:35 AM
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	1	1/20/2023 12:40:35 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	3100	150		mg/Kg	50	1/20/2023 11:49:24 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
- Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value Ε
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- RL

Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-31 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 9:45:00 AM

 Lab ID:
 2301631-004
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: DGH
Diesel Range Organics (DRO)	12	9.8	mg/Kg	1	1/19/2023 5:39:19 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/19/2023 5:39:19 PM
Surr: DNOP	97.6	69-147	%Rec	1	1/19/2023 5:39:19 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/20/2023 1:03:42 AM
Surr: BFB	100	37.7-212	%Rec	1	1/20/2023 1:03:42 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/20/2023 1:03:42 AM
Toluene	ND	0.049	mg/Kg	1	1/20/2023 1:03:42 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/20/2023 1:03:42 AM
Xylenes, Total	ND	0.099	mg/Kg	1	1/20/2023 1:03:42 AM
Surr: 4-Bromofluorobenzene	95.7	70-130	%Rec	1	1/20/2023 1:03:42 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	2700	150	mg/Kg	50	1/20/2023 12:01:45 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 24

Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-32 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 9:50:00 AM

 Lab ID:
 2301631-005
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	25	9.5	mg/Kg	1	1/19/2023 9:29:29 PM
Motor Oil Range Organics (MRO)	56	47	mg/Kg	1	1/19/2023 9:29:29 PM
Surr: DNOP	143	69-147	%Rec	1	1/19/2023 9:29:29 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/20/2023 1:26:44 AM
Surr: BFB	99.8	37.7-212	%Rec	1	1/20/2023 1:26:44 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/20/2023 1:26:44 AM
Toluene	ND	0.049	mg/Kg	1	1/20/2023 1:26:44 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/20/2023 1:26:44 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/20/2023 1:26:44 AM
Surr: 4-Bromofluorobenzene	95.5	70-130	%Rec	1	1/20/2023 1:26:44 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	3400	150	mg/Kg	50	1/20/2023 12:14:05 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 24

Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-33 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 9:55:00 AM

 Lab ID:
 2301631-006
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	Analyst: DGH				
Diesel Range Organics (DRO)	30	8.7	mg/Kg	1	1/19/2023 5:49:52 PM
Motor Oil Range Organics (MRO)	48	43	mg/Kg	1	1/19/2023 5:49:52 PM
Surr: DNOP	129	69-147	%Rec	1	1/19/2023 5:49:52 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/20/2023 1:49:52 AM
Surr: BFB	100	37.7-212	%Rec	1	1/20/2023 1:49:52 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 1:49:52 AM
Toluene	ND	0.047	mg/Kg	1	1/20/2023 1:49:52 AM
Ethylbenzene	ND	0.047	mg/Kg	1	1/20/2023 1:49:52 AM
Xylenes, Total	ND	0.095	mg/Kg	1	1/20/2023 1:49:52 AM
Surr: 4-Bromofluorobenzene	96.2	70-130	%Rec	1	1/20/2023 1:49:52 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2200	59	mg/Kg	20	1/19/2023 3:42:09 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-34 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 10:00:00 AM

 Lab ID:
 2301631-007
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: DGH				
Diesel Range Organics (DRO)	26	9.7	mg/Kg	1	1/19/2023 6:21:07 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/19/2023 6:21:07 PM
Surr: DNOP	108	69-147	%Rec	1	1/19/2023 6:21:07 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/20/2023 2:13:00 AM
Surr: BFB	98.3	37.7-212	%Rec	1	1/20/2023 2:13:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 2:13:00 AM
Toluene	ND	0.049	mg/Kg	1	1/20/2023 2:13:00 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/20/2023 2:13:00 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/20/2023 2:13:00 AM
Surr: 4-Bromofluorobenzene	93.6	70-130	%Rec	1	1/20/2023 2:13:00 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1200	60	mg/Kg	20	1/19/2023 3:54:30 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-35 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 10:05:00 AM

 Lab ID:
 2301631-008
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	13	9.8	mg/Kg	1	1/19/2023 6:41:54 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/19/2023 6:41:54 PM
Surr: DNOP	104	69-147	%Rec	1	1/19/2023 6:41:54 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/20/2023 2:36:02 AM
Surr: BFB	102	37.7-212	%Rec	1	1/20/2023 2:36:02 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 2:36:02 AM
Toluene	ND	0.049	mg/Kg	1	1/20/2023 2:36:02 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/20/2023 2:36:02 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/20/2023 2:36:02 AM
Surr: 4-Bromofluorobenzene	97.2	70-130	%Rec	1	1/20/2023 2:36:02 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	730	60	mg/Kg	20	1/19/2023 4:06:51 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-36 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 10:10:00 AM

 Lab ID:
 2301631-009
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/19/2023 10:01:09 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/19/2023 10:01:09 PM
Surr: DNOP	124	69-147	%Rec	1	1/19/2023 10:01:09 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/20/2023 2:59:05 AM
Surr: BFB	101	37.7-212	%Rec	1	1/20/2023 2:59:05 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 2:59:05 AM
Toluene	ND	0.048	mg/Kg	1	1/20/2023 2:59:05 AM
Ethylbenzene	ND	0.048	mg/Kg	1	1/20/2023 2:59:05 AM
Xylenes, Total	ND	0.095	mg/Kg	1	1/20/2023 2:59:05 AM
Surr: 4-Bromofluorobenzene	95.8	70-130	%Rec	1	1/20/2023 2:59:05 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1200	60	mg/Kg	20	1/19/2023 4:19:11 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-37 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 10:15:00 AM

 Lab ID:
 2301631-010
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

RL Qual	Units	DF	Date Analyzed						
			•						
		EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							
8.5	mg/Kg	1	1/19/2023 10:22:18 PM						
43	mg/Kg	1	1/19/2023 10:22:18 PM						
9-147	%Rec	1	1/19/2023 10:22:18 PM						
			Analyst: JJP						
4.9	mg/Kg	1	1/20/2023 3:22:10 AM						
7-212	%Rec	1	1/20/2023 3:22:10 AM						
			Analyst: JJP						
0.024	mg/Kg	1	1/20/2023 3:22:10 AM						
0.049	mg/Kg	1	1/20/2023 3:22:10 AM						
0.049	mg/Kg	1	1/20/2023 3:22:10 AM						
0.097	mg/Kg	1	1/20/2023 3:22:10 AM						
)-130	%Rec	1	1/20/2023 3:22:10 AM						
			Analyst: CAS						
60	mg/Kg	20	1/19/2023 4:31:32 PM						
7	43 9-147 4.9 7-212 0.024 0.049 0.049 0.097 0-130	43 mg/Kg 9-147 %Rec 4.9 mg/Kg 7-212 %Rec 0.024 mg/Kg 0.049 mg/Kg 0.049 mg/Kg 0.097 mg/Kg 0-130 %Rec	43 mg/Kg 1 9-147 %Rec 1 4.9 mg/Kg 1 7-212 %Rec 1 0.024 mg/Kg 1 0.049 mg/Kg 1 0.049 mg/Kg 1 0.097 mg/Kg 1 0-130 %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
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-38 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 11:35:00 AM

 Lab ID:
 2301631-011
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qua	d Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	1/19/2023 10:33:00 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/19/2023 10:33:00 PM
Surr: DNOP	115	69-147	%Rec	1	1/19/2023 10:33:00 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/20/2023 4:08:24 AM
Surr: BFB	99.7	37.7-212	%Rec	1	1/20/2023 4:08:24 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/20/2023 4:08:24 AM
Toluene	ND	0.049	mg/Kg	1	1/20/2023 4:08:24 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/20/2023 4:08:24 AM
Xylenes, Total	ND	0.099	mg/Kg	1	1/20/2023 4:08:24 AM
Surr: 4-Bromofluorobenzene	94.8	70-130	%Rec	1	1/20/2023 4:08:24 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1200	60	mg/Kg	20	1/19/2023 4:43:53 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-39 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 11:40:00 AM

 Lab ID:
 2301631-012
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	Analyst: DGH				
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/19/2023 10:43:40 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/19/2023 10:43:40 PM
Surr: DNOP	119	69-147	%Rec	1	1/19/2023 10:43:40 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/20/2023 4:31:33 AM
Surr: BFB	100	37.7-212	%Rec	1	1/20/2023 4:31:33 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/20/2023 4:31:33 AM
Toluene	ND	0.049	mg/Kg	1	1/20/2023 4:31:33 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/20/2023 4:31:33 AM
Xylenes, Total	ND	0.099	mg/Kg	1	1/20/2023 4:31:33 AM
Surr: 4-Bromofluorobenzene	94.7	70-130	%Rec	1	1/20/2023 4:31:33 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2100	60	mg/Kg	20	1/19/2023 4:56:14 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-40 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 11:45:00 AM

 Lab ID:
 2301631-013
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: DGH				
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	1/19/2023 10:54:20 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/19/2023 10:54:20 PM
Surr: DNOP	102	69-147	%Rec	1	1/19/2023 10:54:20 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/20/2023 4:54:38 AM
Surr: BFB	101	37.7-212	%Rec	1	1/20/2023 4:54:38 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 4:54:38 AM
Toluene	ND	0.049	mg/Kg	1	1/20/2023 4:54:38 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/20/2023 4:54:38 AM
Xylenes, Total	ND	0.097	mg/Kg	1	1/20/2023 4:54:38 AM
Surr: 4-Bromofluorobenzene	95.2	70-130	%Rec	1	1/20/2023 4:54:38 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1600	60	mg/Kg	20	1/19/2023 5:08:34 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-41 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 11:50:00 AM

 Lab ID:
 2301631-014
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	Analyst: DGH				
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	1/19/2023 11:04:58 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/19/2023 11:04:58 PM
Surr: DNOP	105	69-147	%Rec	1	1/19/2023 11:04:58 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/20/2023 5:17:45 AM
Surr: BFB	99.6	37.7-212	%Rec	1	1/20/2023 5:17:45 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/20/2023 5:17:45 AM
Toluene	ND	0.050	mg/Kg	1	1/20/2023 5:17:45 AM
Ethylbenzene	ND	0.050	mg/Kg	1	1/20/2023 5:17:45 AM
Xylenes, Total	ND	0.10	mg/Kg	1	1/20/2023 5:17:45 AM
Surr: 4-Bromofluorobenzene	94.1	70-130	%Rec	1	1/20/2023 5:17:45 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1200	60	mg/Kg	20	1/19/2023 5:45:37 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-42 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 11:55:00 AM

 Lab ID:
 2301631-015
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

		AL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/19/2023 11:15:36 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/19/2023 11:15:36 PM
Surr: DNOP	79.2	69-147	%Rec	1	1/19/2023 11:15:36 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/20/2023 5:40:53 AM
Surr: BFB	99.7	37.7-212	%Rec	1	1/20/2023 5:40:53 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 5:40:53 AM
Toluene	ND	0.048	mg/Kg	1	1/20/2023 5:40:53 AM
Ethylbenzene	ND	0.048	mg/Kg	1	1/20/2023 5:40:53 AM
Xylenes, Total	ND	0.097	mg/Kg	1	1/20/2023 5:40:53 AM
Surr: 4-Bromofluorobenzene	95.0	70-130	%Rec	1	1/20/2023 5:40:53 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	230	60	mg/Kg	20	1/19/2023 5:57:57 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-43 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 12:00:00 PM

 Lab ID:
 2301631-016
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: DGH				
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	1/19/2023 11:26:12 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/19/2023 11:26:12 PM
Surr: DNOP	96.8	69-147	%Rec	1	1/19/2023 11:26:12 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/20/2023 6:03:58 AM
Surr: BFB	101	37.7-212	%Rec	1	1/20/2023 6:03:58 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 6:03:58 AM
Toluene	ND	0.048	mg/Kg	1	1/20/2023 6:03:58 AM
Ethylbenzene	ND	0.048	mg/Kg	1	1/20/2023 6:03:58 AM
Xylenes, Total	ND	0.096	mg/Kg	1	1/20/2023 6:03:58 AM
Surr: 4-Bromofluorobenzene	96.0	70-130	%Rec	1	1/20/2023 6:03:58 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	650	60	mg/Kg	20	1/19/2023 6:10:18 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-44 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 12:05:00 PM

 Lab ID:
 2301631-017
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: DGH				
Diesel Range Organics (DRO)	ND	8.9	mg/Kg	1	1/19/2023 11:36:48 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/19/2023 11:36:48 PM
Surr: DNOP	109	69-147	%Rec	1	1/19/2023 11:36:48 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/20/2023 6:27:05 AM
Surr: BFB	99.4	37.7-212	%Rec	1	1/20/2023 6:27:05 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 6:27:05 AM
Toluene	ND	0.049	mg/Kg	1	1/20/2023 6:27:05 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/20/2023 6:27:05 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/20/2023 6:27:05 AM
Surr: 4-Bromofluorobenzene	93.8	70-130	%Rec	1	1/20/2023 6:27:05 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1600	60	mg/Kg	20	1/19/2023 6:22:39 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-45 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 12:10:00 PM

 Lab ID:
 2301631-018
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	1/19/2023 11:47:23 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/19/2023 11:47:23 PM
Surr: DNOP	115	69-147	%Rec	1	1/19/2023 11:47:23 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/20/2023 6:50:10 AM
Surr: BFB	99.4	37.7-212	%Rec	1	1/20/2023 6:50:10 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 6:50:10 AM
Toluene	ND	0.048	mg/Kg	1	1/20/2023 6:50:10 AM
Ethylbenzene	ND	0.048	mg/Kg	1	1/20/2023 6:50:10 AM
Xylenes, Total	ND	0.097	mg/Kg	1	1/20/2023 6:50:10 AM
Surr: 4-Bromofluorobenzene	94.8	70-130	%Rec	1	1/20/2023 6:50:10 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	2300	150	mg/Kg	50	1/20/2023 12:26:26 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-46 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 12:15:00 PM

 Lab ID:
 2301631-019
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	9.6	9.1	mg/Kg	1	1/19/2023 11:57:57 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/19/2023 11:57:57 PM
Surr: DNOP	122	69-147	%Rec	1	1/19/2023 11:57:57 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/20/2023 7:13:14 AM
Surr: BFB	100	37.7-212	%Rec	1	1/20/2023 7:13:14 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/20/2023 7:13:14 AM
Toluene	ND	0.050	mg/Kg	1	1/20/2023 7:13:14 AM
Ethylbenzene	ND	0.050	mg/Kg	1	1/20/2023 7:13:14 AM
Xylenes, Total	ND	0.099	mg/Kg	1	1/20/2023 7:13:14 AM
Surr: 4-Bromofluorobenzene	96.1	70-130	%Rec	1	1/20/2023 7:13:14 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	910	60	mg/Kg	20	1/19/2023 6:47:20 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/24/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-47 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/16/2023 12:20:00 PM

 Lab ID:
 2301631-020
 Matrix: SOIL
 Received Date: 1/18/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	1/20/2023 12:08:30 AM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/20/2023 12:08:30 AM
Surr: DNOP	75.8	69-147	%Rec	1	1/20/2023 12:08:30 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/20/2023 7:36:19 AM
Surr: BFB	98.7	37.7-212	%Rec	1	1/20/2023 7:36:19 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/20/2023 7:36:19 AM
Toluene	ND	0.048	mg/Kg	1	1/20/2023 7:36:19 AM
Ethylbenzene	ND	0.048	mg/Kg	1	1/20/2023 7:36:19 AM
Xylenes, Total	ND	0.095	mg/Kg	1	1/20/2023 7:36:19 AM
Surr: 4-Bromofluorobenzene	93.9	70-130	%Rec	1	1/20/2023 7:36:19 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	510	60	mg/Kg	20	1/19/2023 6:59:40 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 2301631 24-Jan-23

Client: Vertex Resources Services, Inc. **Project:** Hackberry 6 Fed 1 Well Pad

Sample ID: MB-72699 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72699 RunNo: 94086

Prep Date: 1/18/2023 Analysis Date: 1/19/2023 SeqNo: 3396794 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72699 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72699 RunNo: 94086

Prep Date: 1/18/2023 Analysis Date: 1/19/2023 SeqNo: 3396795 Units: mg/Kg

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

Chloride 14 15.00 96.1 110

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

2301631 24-Jan-23

WO#:

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: LCS-72696	SampT	ype: LC	s	Tes	tCode: EF	A Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch	n ID: 72 6	696	F	RunNo: 9 4	064				
Prep Date: 1/18/2023	Analysis D	Date: 1/	19/2023	9	SeqNo: 33	95763	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.8	61.9	130			
Surr: DNOP	6.4		5.000		127	69	147			
Sample ID: MB-72696	SampT	уре: МЕ	BLK	Tes	tCode: EF	A Method	8015M/D: Die	sel Range	Organics	
Client ID: PBS	Batch	n ID: 72 6	696	F	RunNo: 9 4	064				
Prep Date: 1/18/2023	Analysis D	Date: 1/	19/2023	5	SeqNo: 33	95767	Units: mg/K	(g		
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		123	69	147			
							• • • •			
Sample ID: 2301631-001AMS	SampT	уре: МЅ	5	Tes			8015M/D: Die	sel Range	Organics	
Sample ID: 2301631-001AMS Client ID: BS23-28 4'		ype: MS				A Method		sel Range	Organics	
		n ID: 72 6	696	F	tCode: EF	A Method		J	Organics	
Client ID: BS23-28 4'	Batch	n ID: 72 6	696 19/2023	F	tCode: EF RunNo: 9 4	A Method	8015M/D: Die	J	Organics RPDLimit	Qual
Client ID: BS23-28 4' Prep Date: 1/18/2023	Batch Analysis D	n ID: 726 Date: 1/	696 19/2023	F	tCode: EF RunNo: 94 SeqNo: 33	PA Method 1064 196919	8015M/D: Die	(g	·	Qual S
Client ID: BS23-28 4' Prep Date: 1/18/2023 Analyte	Batch Analysis D Result	n ID: 726 Date: 1/ PQL	596 19/2023 SPK value	SPK Ref Val	tCode: EF RunNo: 9 4 SeqNo: 33 %REC	PA Method 1064 196919 LowLimit	8015M/D: Die Units: mg/K HighLimit	(g	·	
Client ID: BS23-28 4' Prep Date: 1/18/2023 Analyte Diesel Range Organics (DRO)	Batch Analysis D Result 86 3.9	n ID: 726 Date: 1/ PQL	596 19/2023 SPK value 43.22 4.322	SPK Ref Val 218.7	tCode: EF RunNo: 9 4 SeqNo: 33 %REC -308 91.4	PA Method 1064 196919 LowLimit 54.2 69	8015M/D: Die Units: mg/K HighLimit 135	í g %RPD	RPDLimit	
Client ID: BS23-28 4' Prep Date: 1/18/2023 Analyte Diesel Range Organics (DRO) Surr: DNOP	Batch Analysis D Result 86 3.9 SampT	PQL 8.6	SPK value 43.22 4.322	SPK Ref Val 218.7	tCode: EF RunNo: 9 4 SeqNo: 33 %REC -308 91.4	PA Method 1064 196919 LowLimit 54.2 69 PA Method	8015M/D: Die Units: mg/K HighLimit 135 147	í g %RPD	RPDLimit	
Client ID: BS23-28 4' Prep Date: 1/18/2023 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID: 2301631-001AMSD	Batch Analysis D Result 86 3.9 SampT	PQL 8.6 Sype: MS	SPK value 43.22 4.322 6D	SPK Ref Val 218.7 Tes	tCode: EF RunNo: 94 SeqNo: 33 %REC -308 91.4 tCode: EF	PA Method 1064 196919 LowLimit 54.2 69 PA Method	8015M/D: Die Units: mg/K HighLimit 135 147	g %RPD esel Range	RPDLimit	
Client ID: BS23-28 4' Prep Date: 1/18/2023 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID: 2301631-001AMSD Client ID: BS23-28 4'	Batch Analysis D Result 86 3.9 SampT Batch	PQL 8.6 Sype: MS	SPK value 43.22 4.322 6D 696	SPK Ref Val 218.7 Tes	tCode: EF RunNo: 94 SeqNo: 33 %REC -308 91.4 tCode: EF	PA Method 1064 196919 LowLimit 54.2 69 PA Method	8015M/D: Die Units: mg/K HighLimit 135 147 8015M/D: Die	g %RPD esel Range	RPDLimit	

Qualifiers:

Surr: DNOP

- 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

6.1

4.897

B Analyte detected in the associated Method Blank

125

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147

0

- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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0

Hall Environmental Analysis Laboratory, Inc.

1900

WO#: **2301631**

24-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: 2301631-001am	ns SampT	уре: МЅ	;	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID: BS23-28 4'	Batch	ID: 72 6	692	F	RunNo: 94	1070				
Prep Date: 1/18/2023	Analysis D	ate: 1/ 1	19/2023	5	SeqNo: 33	396115	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.53	0	87.8	70	130			
Surr: BFB	2000		981.4		205	37.7	212			
Sample ID: 2301631-001am	nsd SampT	ype: MS	SD .	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID: BS23-28 4'	Batch	ID: 72 6	692	F	RunNo: 9 4	1070				
Prep Date: 1/18/2023	Analysis D	ate: 1/ 1	19/2023	9	SeqNo: 33	396117	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.34	0	92.5	70	130	4.50	20	
Surr: BFB	2000		973.7		207	37.7	212	0	0	
Sample ID: Ics-72692	SampT	ype: LC	s	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID: LCSS	Batch	ID: 72 6	692	F	RunNo: 94	1070				
Prep Date: 1/18/2023	Analysis D	ate: 1/ 1	19/2023	\$	SeqNo: 33	396143	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.1	72.3	137			

Sample ID: mb-72692	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8015D: Gasol	ine Range		
Client ID: PBS	Batch	n ID: 72 6	692	F	RunNo: 94	4070				
Prep Date: 1/18/2023	Analysis D	ate: 1/	19/2023	5	SeqNo: 33	396144	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0		•			•			
Surr: BFB	1000		1000		103	37.7	212			

195

37.7

212

1000

Qualifiers:

Surr: BFB

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301631 24-Jan-23**

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: 2301631-002ams	Samp	Гуре: МЅ		Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: BS23-29 4'	Batcl	h ID: 72 6	92	F	RunNo: 94	1070				
Prep Date: 1/18/2023	Analysis [Date: 1/ 1	19/2023	5	SeqNo: 33	396165	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9785	0	92.1	68.8	120			
Toluene	0.94	0.049	0.9785	0.01681	94.2	73.6	124			
Ethylbenzene	0.95	0.049	0.9785	0	97.4	72.7	129			
Xylenes, Total	2.8	0.098	2.935	0.02825	95.6	75.7	126			
Surr: 4-Bromofluorobenzene	0.96		0.9785		97.8	70	130			

Sample ID: 2301631-002amsd	Samp1	ype: MS	SD .	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: BS23-29 4'	Batcl	n ID: 726	692	F	RunNo: 94	4070				
Prep Date: 1/18/2023	Analysis D	Date: 1/2	20/2023	5	SeqNo: 3	396166	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	0.9823	0	93.3	68.8	120	1.75	20	
Toluene	0.97	0.049	0.9823	0.01681	97.4	73.6	124	3.67	20	
Ethylbenzene	0.99	0.049	0.9823	0	101	72.7	129	3.91	20	
Xylenes, Total	2.9	0.098	2.947	0.02825	99.0	75.7	126	3.81	20	
Surr: 4-Bromofluorobenzene	0.96		0.9823		97.4	70	130	0	0	

Sample ID: LCS-72692	Samp	ype: LC :	S	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	n ID: 72 6	92	F	RunNo: 94	1070				
Prep Date: 1/18/2023	Analysis [Date: 1/1	19/2023	5	SeqNo: 33	396187	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.3	80	120			
Toluene	0.92	0.050	1.000	0	91.9	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.3	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			

Sample ID: mb-72692	Samp1	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batcl	n ID: 72 6	692	F	RunNo: 94	1070				
Prep Date: 1/18/2023	Analysis D	Date: 1/	19/2023	5	SeqNo: 33	396188	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: 4-Bromofluorobenzene	0.98		1.000		97.7	70	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

Client Name: Vertex Resources Services, Inc.	Work Order Number	er: 2301631		RcptNo:	1
Received By: Juan Rojas	1/18/2023 7:20:00 A	.M	Gent Chenk		
Completed By: Cheyenne Cason	1/18/2023 7:50:31 A	М	Chul		
Reviewed By: JN 118/23					
Chain of Custody					
1. Is Chain of Custody complete?		Yes 🗌	No 🗹	Not Present	
2. How was the sample delivered?		<u>Courier</u>			
Log In 3. Was an attempt made to cool the sample.	oles?	Yes 🔽	No 🗆	na 🗆	
4. Were all samples received at a temperature	ature of >0° C to 6.0°C	Yes 🔽	No 🗌	NA 🗆	
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
6. Sufficient sample volume for indicated t	est(s)?	Yes 🗹	No 🗌		
7. Are samples (except VOA and ONG) pi	operly preserved?	Yes 🗹	No 🗌		
8. Was preservative added to bottles?		Yes 🗌	No 🗹	NA 🗌	
9. Received at least 1 vial with headspace	<1/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹	
10. Were any sample containers received	oroken?	Yes	No 🗹	# of preserved	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custod	y)	Yes 🗹	No 🗆	bottles checked for pH:	>12 unless noted)
12. Are matrices correctly identified on Cha	in of Custody?	Yes 🗸	No 🗆	Adjusted?/	
13. Is it clear what analyses were requested	d?	Yes 🗹	No 🗆		1.
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗆	Checked by:	1-18-23
Special Handling (if applicable)	,			0	
15. Was client notified of all discrepancies	with this order?	Yes 🗌	No 🗆	NA 🗹	
Person Notified:	Date:				
By Whom:	Via:	eMail []	Phone Fax	☐ In Person	
Regarding:			and the second second	***************************************	
Client Instructions:					
16. Additional remarks:		-			
Client Information not complete.					
17. Cooler Information					
Cooler No Temp °C Condition	Seal Intact Seal No	Seal Date	Signed By		
1 3.0 Good	Not Present Morty				

Received by OCD: 5/10/2023 2:45:22 PM

ਹ	hain-	of-Cu	Chain-of-Custody Record	ord	Turn-Around Time:	.: <u>e</u> :				3	;	Z	7	2	M	ENVIDONMENTAL	-
Client:	DANNA	DOUDH (Vertex)	kv)		□ Standard	Rush	48 hr			À	ANAL	YSI	S	AB	OR	ANALYSIS LABORATORY	κΥ
					<i>ii</i>					8	ww.hal	enviro	nmen	www.hallenvironmental.com	c		
Mailing Address:	Address:		on Lile		Hackben	1 6 Feb	y lo Fed I Well Pad	4	4901 Hawkins NE -	awkins	- H	Albuq	uerqu	Albuquerque, NM 87109	87109		
			0		Project #:	þ		•	Tel. 50	505-345-3975	3975	Fax	505	505-345-4107	107	1	
Phone #:		4			12E-01537	537	The section of the se				٨	Analysis Request	s Rec	nest			
email or Fax#:	Fax#:				Project Manager							⁵OS	- 13	(juə			
QA/QC Package:	ackage: tard		☐ Level 4 (Full Validation)	alidation)	Chance	Dikon	no	208) s'8	SO / WE		SWIS0	, PO4,		edA\tn	-	ξı	
Accreditation:	ation:	□ Az Co	☐ Az Compliance		Sampler: {	SPC					170	^z ON			-		
□ NELA	۱C	□ Other			On Ice:	Yes	ON D					'£(AO'				_
□ EDD (Type)	(Type)_		Andrew Control of the		# of Coolers:	k	Morty								-	1.6	
					Cooler Temp(including CF):	7	146.125.0 (°C)								1	ă a	
						ervative	HEAL No.			EDB (N	ARDS	() L' ()	7) 0928 3) 0728				
Date 1, 1, 1		Matrix	Sample Name			ype	6.30(05.7	_	 	_	-	+	_				
75	1142 4:50	Søil	02-959 120-120	+	1 403 Par	8	8	<u>}</u>	1	\dagger	4	>	+	#	+	+	
_	9:35		BS13-29	17	?	0	200					+			1		
	9:40		BS 23-30	4,			203							4			
	9:45		BS23-31	4.			has							3			-
	05:b		BS13-31	4,		J	500							š			
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	00:01		BS13-34	4,			700										
	10:05		BS13- BS	4.			800			\dashv	\dashv		+				+
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1/16/23	1/16/23/18:33	Sally (ly Carttan		A	Ain	[m/18 780		MOH MARK	LANCOLL T		3 6	2	3	S	on Son man	
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1/1/00 1910	1911		MALLAMAMA		M	CLINE	1873-120		ည် ည	Sally	Sally Carthar	tar	1				·

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

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Chain-of-Custody Record	I urn-Around Time:	IAII ENVIDONMENTAI
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n	Project #: 0	Tel. 505-345-3975 Fax 505-345-4107
Phone #:	726-02537	Analysis Request
email or Fax#:	Project Manager:	*O\$
QA/QC Package:	Chance Dixon	SIWS SIWS SCB ₁ 8
Accreditation: Accred	Sampler: CDC	780 (1. 3270 1, ₂ 01
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- 1 >	sthoontracted to other accredited laboratories. This serves as	samples submitted to Hall Environmental may be Anthontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted on the analytical report.

Released to Imaging: 10/5/2023 9:14:51 AM



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

January 26, 2023

Chance Dixon Vertex Resources Services, Inc. 3101 Boyd Drive Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: Hackberry 6 Feb 1 Well Pad OrderNo.: 2301711

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 10 sample(s) on 1/19/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-48 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:37:00 AM

 Lab ID:
 2301711-001
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: DGH
Diesel Range Organics (DRO)	33	9.9	mg/Kg	1	1/23/2023 3:31:33 PM
Motor Oil Range Organics (MRO)	64	50	mg/Kg	1	1/23/2023 3:31:33 PM
Surr: DNOP	90.2	69-147	%Rec	1	1/23/2023 3:31:33 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 6:28:27 AM
Surr: BFB	99.1	37.7-212	%Rec	1	1/21/2023 6:28:27 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/21/2023 6:28:27 AM
Toluene	ND	0.049	mg/Kg	1	1/21/2023 6:28:27 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 6:28:27 AM
Xylenes, Total	ND	0.099	mg/Kg	1	1/21/2023 6:28:27 AM
Surr: 4-Bromofluorobenzene	94.1	70-130	%Rec	1	1/21/2023 6:28:27 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	1100	60	mg/Kg	20	1/20/2023 9:17:21 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 17

Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-49 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:37:00 AM

 Lab ID:
 2301711-002
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: DGH
Diesel Range Organics (DRO)	65	9.8	mg/Kg	1	1/23/2023 5:46:17 PM
Motor Oil Range Organics (MRO)	100	49	mg/Kg	1	1/23/2023 5:46:17 PM
Surr: DNOP	105	69-147	%Rec	1	1/23/2023 5:46:17 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 7:37:51 AM
Surr: BFB	99.2	37.7-212	%Rec	1	1/21/2023 7:37:51 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/21/2023 7:37:51 AM
Toluene	ND	0.049	mg/Kg	1	1/21/2023 7:37:51 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 7:37:51 AM
Xylenes, Total	ND	0.099	mg/Kg	1	1/21/2023 7:37:51 AM
Surr: 4-Bromofluorobenzene	94.4	70-130	%Rec	1	1/21/2023 7:37:51 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	1400	60	mg/Kg	20	1/20/2023 9:54:22 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 17

Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-50 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:40:00 AM

 Lab ID:
 2301711-003
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	52	9.8	mg/Kg	1	1/23/2023 6:17:35 PM
Motor Oil Range Organics (MRO)	96	49	mg/Kg	1	1/23/2023 6:17:35 PM
Surr: DNOP	99.8	69-147	%Rec	1	1/23/2023 6:17:35 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 8:00:56 AM
Surr: BFB	98.7	37.7-212	%Rec	1	1/21/2023 8:00:56 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/21/2023 8:00:56 AM
Toluene	ND	0.049	mg/Kg	1	1/21/2023 8:00:56 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 8:00:56 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/21/2023 8:00:56 AM
Surr: 4-Bromofluorobenzene	94.5	70-130	%Rec	1	1/21/2023 8:00:56 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	1600	60	mg/Kg	20	1/20/2023 10:06:43 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-51 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:40:00 AM

 Lab ID:
 2301711-004
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Ou	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	39	9.8	mg/Kg	1	1/23/2023 6:48:45 PM
Motor Oil Range Organics (MRO)	85	49	mg/Kg	1	1/23/2023 6:48:45 PM
Surr: DNOP	91.0	69-147	%Rec	1	1/23/2023 6:48:45 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/21/2023 8:24:01 AM
Surr: BFB	98.0	37.7-212	%Rec	1	1/21/2023 8:24:01 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/21/2023 8:24:01 AM
Toluene	ND	0.050	mg/Kg	1	1/21/2023 8:24:01 AM
Ethylbenzene	ND	0.050	mg/Kg	1	1/21/2023 8:24:01 AM
Xylenes, Total	ND	0.099	mg/Kg	1	1/21/2023 8:24:01 AM
Surr: 4-Bromofluorobenzene	94.4	70-130	%Rec	1	1/21/2023 8:24:01 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	1600	60	mg/Kg	20	1/20/2023 10:19:04 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-52 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:45:00 AM

 Lab ID:
 2301711-005
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	76	9.4	mg/Kg	1	1/23/2023 7:20:04 PM
Motor Oil Range Organics (MRO)	160	47	mg/Kg	1	1/23/2023 7:20:04 PM
Surr: DNOP	94.4	69-147	%Rec	1	1/23/2023 7:20:04 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 8:47:04 AM
Surr: BFB	97.7	37.7-212	%Rec	1	1/21/2023 8:47:04 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/21/2023 8:47:04 AM
Toluene	ND	0.049	mg/Kg	1	1/21/2023 8:47:04 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 8:47:04 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/21/2023 8:47:04 AM
Surr: 4-Bromofluorobenzene	93.0	70-130	%Rec	1	1/21/2023 8:47:04 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	3100	150	mg/Kg	50	1/21/2023 11:27:28 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-53 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:45:00 AM

 Lab ID:
 2301711-006
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	88	9.5	mg/Kg	1	1/23/2023 4:26:49 PM
Motor Oil Range Organics (MRO)	160	47	mg/Kg	1	1/23/2023 4:26:49 PM
Surr: DNOP	91.5	69-147	%Rec	1	1/23/2023 4:26:49 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/21/2023 9:10:08 AM
Surr: BFB	99.9	37.7-212	%Rec	1	1/21/2023 9:10:08 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/21/2023 9:10:08 AM
Toluene	ND	0.050	mg/Kg	1	1/21/2023 9:10:08 AM
Ethylbenzene	ND	0.050	mg/Kg	1	1/21/2023 9:10:08 AM
Xylenes, Total	ND	0.099	mg/Kg	1	1/21/2023 9:10:08 AM
Surr: 4-Bromofluorobenzene	95.9	70-130	%Rec	1	1/21/2023 9:10:08 AM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	2600	150	mg/Kg	50	1/21/2023 11:39:49 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 6 of 17

Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-54 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:50:00 AM

 Lab ID:
 2301711-007
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: SB
Diesel Range Organics (DRO)	32	9.8	mg/Kg	1	1/23/2023 3:33:44 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/23/2023 3:33:44 PM
Surr: DNOP	102	69-147	%Rec	1	1/23/2023 3:33:44 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 10:42:34 AM
Surr: BFB	99.0	37.7-212	%Rec	1	1/21/2023 10:42:34 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/21/2023 10:42:34 AM
Toluene	ND	0.049	mg/Kg	1	1/21/2023 10:42:34 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 10:42:34 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/21/2023 10:42:34 AM
Surr: 4-Bromofluorobenzene	95.6	70-130	%Rec	1	1/21/2023 10:42:34 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	2200	60	mg/Kg	20	1/20/2023 10:56:06 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

orting Limit Page 7 of 17

Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-55 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:50:00 AM

 Lab ID:
 2301711-008
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/23/2023 3:57:16 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/23/2023 3:57:16 PM
Surr: DNOP	98.8	69-147	%Rec	1	1/23/2023 3:57:16 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 11:51:55 AM
Surr: BFB	101	37.7-212	%Rec	1	1/21/2023 11:51:55 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/21/2023 11:51:55 AM
Toluene	ND	0.049	mg/Kg	1	1/21/2023 11:51:55 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 11:51:55 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/21/2023 11:51:55 AM
Surr: 4-Bromofluorobenzene	97.7	70-130	%Rec	1	1/21/2023 11:51:55 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	1100	60	mg/Kg	20	1/20/2023 11:33:08 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 8 of 17

Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-56 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:54:00 AM

 Lab ID:
 2301711-009
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: SB
Diesel Range Organics (DRO)	230	9.9	mg/Kg	1	1/23/2023 7:52:46 PM
Motor Oil Range Organics (MRO)	310	50	mg/Kg	1	1/23/2023 7:52:46 PM
Surr: DNOP	116	69-147	%Rec	1	1/23/2023 7:52:46 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 1:01:34 PM
Surr: BFB	101	37.7-212	%Rec	1	1/21/2023 1:01:34 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/21/2023 1:01:34 PM
Toluene	ND	0.049	mg/Kg	1	1/21/2023 1:01:34 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 1:01:34 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/21/2023 1:01:34 PM
Surr: 4-Bromofluorobenzene	96.0	70-130	%Rec	1	1/21/2023 1:01:34 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	3700	150	mg/Kg	50	1/21/2023 11:52:10 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/26/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-57 4'

 Project:
 Hackberry 6 Feb 1 Well Pad
 Collection Date: 1/17/2023 9:55:00 AM

 Lab ID:
 2301711-010
 Matrix: SOIL
 Received Date: 1/19/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Diesel Range Organics (DRO)	290	9.6	mg/Kg	1	1/24/2023 5:08:10 PM
Motor Oil Range Organics (MRO)	440	48	mg/Kg	1	1/24/2023 5:08:10 PM
Surr: DNOP	124	69-147	%Rec	1	1/24/2023 5:08:10 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 1:24:47 PM
Surr: BFB	101	37.7-212	%Rec	1	1/21/2023 1:24:47 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/21/2023 1:24:47 PM
Toluene	ND	0.049	mg/Kg	1	1/21/2023 1:24:47 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 1:24:47 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/21/2023 1:24:47 PM
Surr: 4-Bromofluorobenzene	96.3	70-130	%Rec	1	1/21/2023 1:24:47 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	7100	300	mg/Kg	100	1/22/2023 12:04:31 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

rting Limit Page 10 of 17

Hall Environmental Analysis Laboratory, Inc.

WO#: 2301711 26-Jan-23

Client: Vertex Resources Services, Inc. **Project:** Hackberry 6 Feb 1 Well Pad

Sample ID: MB-72729 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72729 RunNo: 94097

Prep Date: 1/20/2023 Analysis Date: 1/20/2023 SeqNo: 3397311 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72729 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72729 RunNo: 94097

Units: mg/Kg Prep Date: 1/20/2023 Analysis Date: 1/20/2023 SeqNo: 3397312

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

Chloride 14 15.00 94.2 110

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

9.8

5.2

2301711 26-Jan-23

WO#:

Client: Vertex Resources Services, Inc. **Project:** Hackberry 6 Feb 1 Well Pad Sample ID: LCS-72738 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 72738 RunNo: 94119

Prep Date: 1/20/2023 Analysis Date: 1/23/2023 SeqNo: 3398450 Units: mg/Kg SPK Ref Val HighLimit %RPD **RPDLimit** Analyte Result **PQL** SPK value %REC LowLimit Qual Diesel Range Organics (DRO) 43 10 50.00 n 85.9 61.9 130

Surr: DNOP 5.6 5.000 147 111 69

10.00

4.845

Sample ID: MB-72738 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 72738 RunNo: 94119 Analysis Date: 1/23/2023 Prep Date: 1/20/2023 SeqNo: 3398451 Units: mg/Kg HighLimit Analyte Result PQL SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50

Sample ID: 2301711-007AMS SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: BS23-54 4' Batch ID: 72726 RunNo: 94119 Prep Date: 1/20/2023 Analysis Date: 1/23/2023 SeqNo: 3399089 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 55 31.80 54.2 9.7 48.45 47.0 135 S

97.6

107

147

147

69

Sample ID: 2301711-007AMSD SampType: MSD TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: BS23-54 4' Batch ID: 72726 RunNo: 94119 Prep Date: Analysis Date: 1/23/2023 SeqNo: 3399090 Units: mg/Kg 1/20/2023 SPK Ref Val LowLimit %RPD **RPDLimit** Analyte Result POI SPK value %REC HighLimit Qual Diesel Range Organics (DRO) 56 9.7 48.45 31.80 49.4 54.2 135 2.13 29.2 S Surr: DNOP 4.7 4.845 96.8 69 147 0 0

Sample ID: LCS-72726 TestCode: EPA Method 8015M/D: Diesel Range Organics SampType: LCS Batch ID: 72726 Client ID: LCSS RunNo: 94119 Prep Date: 1/20/2023 Analysis Date: 1/23/2023 SeqNo: 3399135 Units: mg/Kg %REC Analyte Result **PQL** SPK value SPK Ref Val HighLimit %RPD **RPDLimit** Qual LowLimit Diesel Range Organics (DRO) 41 10 50.00 83.0 61.9 130 Surr: DNOP 5.4 5.000 107 69 147

Qualifiers:

Surr: DNOP

Surr: DNOP

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value Е
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

2301711 26-Jan-23

WO#:

Client: Vertex Resources Services, Inc. **Project:** Hackberry 6 Feb 1 Well Pad

Sample ID: MB-72726	ient ID: PBS Batch ID: 72726			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS				F	RunNo: 94	1119				
Prep Date: 1/20/2023				SeqNo: 3399139			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								

Surr: DNOP 9.9 10.00 98.5 147 69

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 2301711

26-Jan-23

Client:	Vertex Resources Services, Inc.
Project:	Hackberry 6 Feb 1 Well Pad

Project: H	ackberry o Feb 1	WCII I ad						
Sample ID: Ics-72715	SampT	Гуре: LCS	Tes	stCode: EPA Meti	hod 8015D: Gasol	ine Range		
Client ID: LCSS	Batch	h ID: 72715		RunNo: 94108				
Prep Date: 1/19/202	3 Analysis D	Date: 1/20/2023		SeqNo: 3397800	Units: mg/K	g		
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC LowLi	imit HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (C			.00 0		72.3 137			
Surr: BFB	2000	10	000	200 3	37.7 212			
Sample ID: Ics-72717	SampT	Гуре: LCS	Tes	stCode: EPA Meti	hod 8015D: Gasol	ine Range		
Client ID: LCSS	Batch	h ID: 72717		RunNo: 94108				
Prep Date: 1/19/202	3 Analysis D	Date: 1/21/2023		SeqNo: 3397801	Units: mg/K	g		
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC LowLi	imit HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (C	GRO) 20		.00 0		72.3 137			
Surr: BFB	1900	10	000	191 3	37.7 212			
Sample ID: mb-72715	SampT	Гуре: МВLК	Tes	stCode: EPA Meti	hod 8015D: Gasol	ine Range		
Client ID: PBS	Batch	h ID: 72715		RunNo: 94108				
Prep Date: 1/19/202	3 Analysis D	Date: 1/20/2023		SeqNo: 3397803	Units: mg/K	g		
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC LowLi	imit HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (C		5.0						
Surr: BFB	1000	10	000	102 3	37.7 212			
Sample ID: mb-72717	SampT	Гуре: МВLК	Tes	stCode: EPA Meti	hod 8015D: Gasol	ine Range		
Client ID: PBS	Batch	h ID: 72717		RunNo: 94108				
Prep Date: 1/19/202	3 Analysis D	Date: 1/21/2023		SeqNo: 3397804	Units: mg/K	g		
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC LowLi	imit HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (C		5.0						
Surr: BFB	1000	10	000	100 3	37.7 212			
Sample ID: 2301711-0	007ams SampT	Гуре: мѕ	Tes	stCode: EPA MetI	hod 8015D: Gasol	ine Range		
Client ID: BS23-54	!' Batch	h ID: 72717		RunNo: 94108				
Prep Date: 1/19/202	3 Analysis D	Date: 1/21/2023		SeqNo: 3397850	Units: mg/K	g		
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC LowLi	imit HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (C			.32 0	86.0	70 130			
Surr: BFB	2000	97	2.8	202 3	37.7 212			
Sample ID: 2301711-0	007amsd SampT	Гуре: MSD	Tes	stCode: EPA MetI	hod 8015D: Gasol	ine Range		
Client ID: BS23-54 4	l' Batch	h ID: 72717		RunNo: 94108				
Prep Date: 1/19/202	3 Analysis D	Date: 1/21/2023		SeqNo: 3397851	Units: mg/K	g		
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC LowLi	imit HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301711 26-Jan-23**

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Feb 1 Well Pad

Client ID:

Sample ID: 2301711-007amsd SampType: MSD

BS23-54 4' Batch ID: 72717 RunNo: 94108

Prep Date: 1/19/2023 Analysis Date: 1/21/2023 SeqNo: 3397851 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 23 5.0 24.80 92.1 70 130 8.84 20 Surr: BFB 2000 992.1 205 37.7 212 0 0

TestCode: EPA Method 8015D: Gasoline Range

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301711 26-Jan-23**

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Feb 1 Well Pad

Sample ID: LCS-72715	Samp	ype: LC	S	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	n ID: 72 7	' 15	RunNo: 94108						
Prep Date: 1/19/2023	Analysis [Date: 1/2	20/2023	9	SeqNo: 3	397872	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.4	80	120			
Toluene	0.93	0.050	1.000	0	92.7	80	120			
Ethylbenzene	0.93	0.050	1.000	0	92.9	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.2	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	70	130			

Sample ID: LCS-72717	Samp1	Type: LC :	S	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	h ID: 727	'17	F	RunNo: 94	1108				
Prep Date: 1/19/2023	Analysis D	Date: 1/2	21/2023	5	SeqNo: 33	397873	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	89.1	80	120			_
Toluene	0.93	0.050	1.000	0	92.9	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.1	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.2	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	70	130			

Sample ID: mb-72715	Samp	Гуре: МЕ	LK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batcl	h ID: 72 7	' 15	F	RunNo: 94	1108				
Prep Date: 1/19/2023	Analysis [Date: 1/2	20/2023	5	SeqNo: 33	397875	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: 4-Bromofluorobenzene	0.96		1.000		96.4	70	130			

Sample ID: mb-72717	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batcl	n ID: 72 7	717	F	RunNo: 94	4108				
Prep Date: 1/19/2023	Analysis D	Date: 1/2	21/2023	5	SeqNo: 33	397876	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: 4-Bromofluorobenzene	0.97		1.000		96.7	70	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301711**

26-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Feb 1 Well Pad

Sample ID: 2301711-008ams	SampType: MS TestCode: El				PA Method 8021B: Volatiles						
Client ID: BS23-55 4'	Batc	h ID: 72 7	'17	F	RunNo: 9 4	4108					
Prep Date: 1/19/2023	Analysis [Date: 1/2	21/2023	5	SeqNo: 33	397918	Units: mg/K	g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.99	0.025	0.9950	0	99.7	68.8	120				
Toluene	1.1	0.050	0.9950	0.01657	105	73.6	124				
Ethylbenzene	1.1	0.050	0.9950	0	108	72.7	129				
Xylenes, Total	3.2	0.10	2.985	0.02814	106	75.7	126				
Surr: 4-Bromofluorobenzene	0.99		0.9950		99.4	70	130				

Sample ID: 2301711-008ams	d Samp	Туре: МЅ	SD	Tes	tCode: El	PA Method	8021B: Volati	les		
Client ID: BS23-55 4'	Bato	h ID: 72 7	717	F	RunNo: 94	4108				
Prep Date: 1/19/2023	Analysis	Date: 1/2	21/2023	5	SeqNo: 3	397919	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	0.9823	0	97.2	68.8	120	3.86	20	
Toluene	1.0	0.049	0.9823	0.01657	102	73.6	124	3.49	20	
Ethylbenzene	1.0	0.049	0.9823	0	105	72.7	129	3.86	20	
Xylenes, Total	3.1	0.098	2.947	0.02814	104	75.7	126	3.40	20	
Surr: 4-Bromofluorobenzene	0.95		0.9823		96.6	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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

	ertex Resources ervices, Inc.	Work	Order Numb	per: 2301	711			RcptNo:	1
Received By:	Juan Rojas	1/19/202	3 7:20:00 A	ΑM		Heave	9	, val	
Completed By:	Sean Livingston	1/19/202	3 8:11:30 <i>A</i>	AM		<	/	in the	
Reviewed By:	1-19-23					ے ر	— <i>—</i>	750-	
Chain of Custo	<u>dy</u>							_	
1. Is Chain of Cust	tody complete?			Yes	V	No		Not Present	
2. How was the sa	mple delivered?			Cour	<u>ier</u>				
Log In								_	
3. Was an attempt	made to cool the sa	amples?		Yes	V	No		NA 🗌	
4. Were all sample	s received at a temp	perature of >0° C to	o 6.0°C	Yes	V	No		NA 🗆	
5. Sample(s) in pro	pper container(s)?			Yes	✓	No			
6. Sufficient sample	e volume for indicate	ed test(s)?		Yes	✓	No			
7. Are samples (ex	cept VOA and ONG) properly preserve	d?	Yes	V	No l			
8. Was preservative	e added to bottles?			Yes		No	✓	NA 🗆	
9. Received at leas	t 1 vial with headsp	ace <1/4" for AQ V	OA?	Yes		No l		NA 🗹	70
10. Were any samp	le containers receive	ed broken?		Yes		No	✓		
								# of preserved bottles checked	1/20/5
11. Does paperwork				Yes	V	No		for pH:	≥12 unless noted
(Note discrepand	cies on chain of cust	7.0		Yes	~	No	٦	Adjusted?	12 dilloco fictor
13. Is it clear what a					~	No l			
14. Were all holding	times able to be me	et?		Yes	✓	No		Checked by:	
terito als Sexto	omer for authorizati								
Special Handlin 15, Was client notifi				Yes		No		na 🗹	
Person No	otified:		Date:			LANGE TO THE RESERVE	and the same of		
By Whom			Via:	" ∏ eMa	ail 🔲	Phone	Fax	☐ In Person	
Regarding	,				-				
Client Inst	ructions:								
16. Additional rema	arks:								
17. Cooler Inform									
Cooler No	Temp °C Condit		Seal No	Seal D	ate	Signed E	Ву		
<u></u>	1.2 Good 2.3 Good	Not Present Not Present	Morty	-		*			
<u>t </u>		INOL FIGSEIR	iviolity					1	

Received by OCD: 5/10/2023 2:45:22 PM

Chain-of-Custody Record	Turn-Around Time:	HALL ENVIRONMENTAL
Client: Devan (Vertex)	□ Standard Prush US hour	ANALYSIS LABORATORY
	Project Name:	www.hallenvironmental.com
Mailing Address: On 午i le	Hackberry 6 Feb 1 Wellpad	4901 Hawkins NE - Albuquerque, NM 87109
	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:	22E-02537	Analysis Request
email or Fax#:	Project Manager:	(O)
QA/QC Package: ☐ Standard ☐ Level 4 (Full Validation)	Chance Dixon	PCB's
Accreditation: ☐ Az Compliance ☐ Det Accreditation ☐ Det Accreditation ☐ Other	Sampler: SPC DNo	S808\a (1.40\) (1.40\) 7.28 10 2.0N
□ EDD (Type)	olers:	or (GR)
	Cooler Temp(including CF): See Repres TS (°C)	15D estic by 83 8 Me 3r, 1 3r, 1
Date Time Matrix Sample Name	Container Preservative HEAL No.	ETEX# 19081 PP
23 9:37 50:1		>
-	Section 1 Sectio	
9:40	٤٥٥	
	H00	
	500	
	محد	
19:50 BS23-54 4'	න අ	
	300	
a	he0	
	200	
Relinquished by:	: Via: Date	Remarks: 1.2-0= 1.2
01918	11813 (11813	7.30223
Time: Refil	Via: V Date Time	
Was an Chumn	1 - A come 11923 7:20	

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



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

January 30, 2023

Chance Dixon
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040

FAX

RE: Hackberry 6 Fed 1 Well Pad OrderNo.: 2301764

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 18 sample(s) on 1/20/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-58 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:25:00 AM

 Lab ID:
 2301764-001
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: SB
Diesel Range Organics (DRO)	180	19	mg/Kg	2	1/24/2023 3:20:43 PM
Motor Oil Range Organics (MRO)	340	97	mg/Kg	2	1/24/2023 3:20:43 PM
Surr: DNOP	117	69-147	%Rec	2	1/24/2023 3:20:43 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/23/2023 11:41:57 AM
Surr: BFB	104	37.7-212	%Rec	1	1/23/2023 11:41:57 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2023 11:41:57 AM
Toluene	ND	0.047	mg/Kg	1	1/23/2023 11:41:57 AM
Ethylbenzene	ND	0.047	mg/Kg	1	1/23/2023 11:41:57 AM
Xylenes, Total	ND	0.095	mg/Kg	1	1/23/2023 11:41:57 AM
Surr: 4-Bromofluorobenzene	96.5	70-130	%Rec	1	1/23/2023 11:41:57 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	9700	300	mg/Kg	100	1/23/2023 10:38:35 AM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-59 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:29:00 AM

 Lab ID:
 2301764-002
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: SB
Diesel Range Organics (DRO)	170	10	mg/Kg	1	1/24/2023 1:58:37 PM
Motor Oil Range Organics (MRO)	240	50	mg/Kg	1	1/24/2023 1:58:37 PM
Surr: DNOP	109	69-147	%Rec	1	1/24/2023 1:58:37 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/23/2023 12:52:17 PM
Surr: BFB	107	37.7-212	%Rec	1	1/23/2023 12:52:17 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2023 12:52:17 PM
Toluene	ND	0.048	mg/Kg	1	1/23/2023 12:52:17 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/23/2023 12:52:17 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/23/2023 12:52:17 PM
Surr: 4-Bromofluorobenzene	99.6	70-130	%Rec	1	1/23/2023 12:52:17 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4500	150	mg/Kg	50	1/23/2023 10:51:27 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-60 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:30:00 AM

 Lab ID:
 2301764-003
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	150	9.7	mg/Kg	1	1/24/2023 2:12:38 PM
Motor Oil Range Organics (MRO)	240	49	mg/Kg	1	1/24/2023 2:12:38 PM
Surr: DNOP	106	69-147	%Rec	1	1/24/2023 2:12:38 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/23/2023 2:02:42 PM
Surr: BFB	105	37.7-212	%Rec	1	1/23/2023 2:02:42 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/23/2023 2:02:42 PM
Toluene	ND	0.046	mg/Kg	1	1/23/2023 2:02:42 PM
Ethylbenzene	ND	0.046	mg/Kg	1	1/23/2023 2:02:42 PM
Xylenes, Total	ND	0.092	mg/Kg	1	1/23/2023 2:02:42 PM
Surr: 4-Bromofluorobenzene	96.9	70-130	%Rec	1	1/23/2023 2:02:42 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	2200	60	mg/Kg	20	1/21/2023 1:12:53 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-61 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:33:00 AM

 Lab ID:
 2301764-004
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	70	10	mg/Kg	1	1/24/2023 5:00:11 PM
Motor Oil Range Organics (MRO)	100	50	mg/Kg	1	1/24/2023 5:00:11 PM
Surr: DNOP	121	69-147	%Rec	1	1/24/2023 5:00:11 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/23/2023 2:26:11 PM
Surr: BFB	106	37.7-212	%Rec	1	1/23/2023 2:26:11 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/23/2023 2:26:11 PM
Toluene	ND	0.050	mg/Kg	1	1/23/2023 2:26:11 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/23/2023 2:26:11 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/23/2023 2:26:11 PM
Surr: 4-Bromofluorobenzene	98.2	70-130	%Rec	1	1/23/2023 2:26:11 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	8100	300	mg/Kg	100	1/23/2023 11:04:18 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-62 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:35:00 AM

 Lab ID:
 2301764-005
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	310	50	mg/Kg	5	1/24/2023 5:27:55 PM
Motor Oil Range Organics (MRO)	460	250	mg/Kg	5	1/24/2023 5:27:55 PM
Surr: DNOP	107	69-147	%Rec	5	1/24/2023 5:27:55 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/23/2023 2:49:43 PM
Surr: BFB	104	37.7-212	%Rec	1	1/23/2023 2:49:43 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2023 2:49:43 PM
Toluene	ND	0.047	mg/Kg	1	1/23/2023 2:49:43 PM
Ethylbenzene	ND	0.047	mg/Kg	1	1/23/2023 2:49:43 PM
Xylenes, Total	ND	0.095	mg/Kg	1	1/23/2023 2:49:43 PM
Surr: 4-Bromofluorobenzene	95.7	70-130	%Rec	1	1/23/2023 2:49:43 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4200	150	mg/Kg	50	1/23/2023 11:17:10 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-63 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:36:00 AM

 Lab ID:
 2301764-006
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	190	17	mg/Kg	2	1/24/2023 3:06:43 PM
Motor Oil Range Organics (MRO)	300	86	mg/Kg	2	1/24/2023 3:06:43 PM
Surr: DNOP	121	69-147	%Rec	2	1/24/2023 3:06:43 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/23/2023 3:13:14 PM
Surr: BFB	105	37.7-212	%Rec	1	1/23/2023 3:13:14 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2023 3:13:14 PM
Toluene	ND	0.047	mg/Kg	1	1/23/2023 3:13:14 PM
Ethylbenzene	ND	0.047	mg/Kg	1	1/23/2023 3:13:14 PM
Xylenes, Total	ND	0.094	mg/Kg	1	1/23/2023 3:13:14 PM
Surr: 4-Bromofluorobenzene	96.6	70-130	%Rec	1	1/23/2023 3:13:14 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	8700	600	mg/Kg	200	1/23/2023 11:30:02 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-64 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:39:00 AM

 Lab ID:
 2301764-007
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: SB				
Diesel Range Organics (DRO)	56	9.7	mg/Kg	1	1/24/2023 1:44:45 PM
Motor Oil Range Organics (MRO)	81	48	mg/Kg	1	1/24/2023 1:44:45 PM
Surr: DNOP	110	69-147	%Rec	1	1/24/2023 1:44:45 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/23/2023 3:36:42 PM
Surr: BFB	106	37.7-212	%Rec	1	1/23/2023 3:36:42 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/23/2023 3:36:42 PM
Toluene	ND	0.050	mg/Kg	1	1/23/2023 3:36:42 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/23/2023 3:36:42 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/23/2023 3:36:42 PM
Surr: 4-Bromofluorobenzene	98.6	70-130	%Rec	1	1/23/2023 3:36:42 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	17000	600	mg/Kg	200	1/23/2023 11:42:53 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-65 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:39:00 AM

 Lab ID:
 2301764-008
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: DGH				
Diesel Range Organics (DRO)	120	9.8	mg/Kg	1	1/24/2023 1:50:54 PM
Motor Oil Range Organics (MRO)	150	49	mg/Kg	1	1/24/2023 1:50:54 PM
Surr: DNOP	120	69-147	%Rec	1	1/24/2023 1:50:54 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/23/2023 4:00:09 PM
Surr: BFB	108	37.7-212	%Rec	1	1/23/2023 4:00:09 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/23/2023 4:00:09 PM
Toluene	ND	0.046	mg/Kg	1	1/23/2023 4:00:09 PM
Ethylbenzene	ND	0.046	mg/Kg	1	1/23/2023 4:00:09 PM
Xylenes, Total	ND	0.092	mg/Kg	1	1/23/2023 4:00:09 PM
Surr: 4-Bromofluorobenzene	99.3	70-130	%Rec	1	1/23/2023 4:00:09 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	12000	600	mg/Kg	200	1/23/2023 11:55:45 AM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-66 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:45:00 AM

 Lab ID:
 2301764-009
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: DGH				
Diesel Range Organics (DRO)	160	9.6	mg/Kg	1	1/24/2023 2:01:37 PM
Motor Oil Range Organics (MRO)	220	48	mg/Kg	1	1/24/2023 2:01:37 PM
Surr: DNOP	108	69-147	%Rec	1	1/24/2023 2:01:37 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/23/2023 4:23:37 PM
Surr: BFB	104	37.7-212	%Rec	1	1/23/2023 4:23:37 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2023 4:23:37 PM
Toluene	ND	0.048	mg/Kg	1	1/23/2023 4:23:37 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/23/2023 4:23:37 PM
Xylenes, Total	ND	0.095	mg/Kg	1	1/23/2023 4:23:37 PM
Surr: 4-Bromofluorobenzene	95.2	70-130	%Rec	1	1/23/2023 4:23:37 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	6800	300	mg/Kg	100	1/23/2023 12:08:36 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-67 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:43:00 AM

 Lab ID:
 2301764-010
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Result **RL Qual Units** DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: **DGH** Diesel Range Organics (DRO) 390 48 mg/Kg 5 1/24/2023 2:33:27 PM Motor Oil Range Organics (MRO) 5 670 240 mg/Kg 1/24/2023 2:33:27 PM Surr: DNOP 143 69-147 %Rec 5 1/24/2023 2:33:27 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/23/2023 4:47:08 PM 4.7 mg/Kg 1 Surr: BFB 106 37.7-212 %Rec 1 1/23/2023 4:47:08 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.023 mg/Kg 1/23/2023 4:47:08 PM 1 Toluene ND 0.047 mg/Kg 1 1/23/2023 4:47:08 PM Ethylbenzene ND 0.047 mg/Kg 1 1/23/2023 4:47:08 PM Xylenes, Total ND 0.094 mg/Kg 1 1/23/2023 4:47:08 PM Surr: 4-Bromofluorobenzene 97.8 70-130 %Rec 1 1/23/2023 4:47:08 PM **EPA METHOD 300.0: ANIONS** Analyst: CAS Chloride 5900 300 1/23/2023 12:21:27 PM ma/Ka 100

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-68 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:50:00 AM

 Lab ID:
 2301764-011
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: DGH				
Diesel Range Organics (DRO)	330	47	mg/Kg	5	1/24/2023 2:44:10 PM
Motor Oil Range Organics (MRO)	590	240	mg/Kg	5	1/24/2023 2:44:10 PM
Surr: DNOP	144	69-147	%Rec	5	1/24/2023 2:44:10 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/23/2023 5:34:01 PM
Surr: BFB	102	37.7-212	%Rec	1	1/23/2023 5:34:01 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/23/2023 5:34:01 PM
Toluene	ND	0.049	mg/Kg	1	1/23/2023 5:34:01 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/23/2023 5:34:01 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/23/2023 5:34:01 PM
Surr: 4-Bromofluorobenzene	94.3	70-130	%Rec	1	1/23/2023 5:34:01 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	5200	300	mg/Kg	100	1/23/2023 12:34:18 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-69 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:51:00 AM

 Lab ID:
 2301764-012
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGAI	Analyst: DGH				
Diesel Range Organics (DRO)	440	49	mg/Kg	5	1/25/2023 4:00:20 PM
Motor Oil Range Organics (MRO)	510	240	mg/Kg	5	1/25/2023 4:00:20 PM
Surr: DNOP	118	69-147	%Rec	5	1/25/2023 4:00:20 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/23/2023 5:57:27 PM
Surr: BFB	104	37.7-212	%Rec	1	1/23/2023 5:57:27 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2023 5:57:27 PM
Toluene	ND	0.048	mg/Kg	1	1/23/2023 5:57:27 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/23/2023 5:57:27 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/23/2023 5:57:27 PM
Surr: 4-Bromofluorobenzene	96.7	70-130	%Rec	1	1/23/2023 5:57:27 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4900	150	mg/Kg	50	1/23/2023 1:12:53 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-70 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:54:00 AM

 Lab ID:
 2301764-013
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	540	98		mg/Kg	10	1/24/2023 4:04:54 PM
Motor Oil Range Organics (MRO)	890	490		mg/Kg	10	1/24/2023 4:04:54 PM
Surr: DNOP	0	69-147	S	%Rec	10	1/24/2023 4:04:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/23/2023 6:20:48 PM
Surr: BFB	105	37.7-212		%Rec	1	1/23/2023 6:20:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	1/23/2023 6:20:48 PM
Toluene	ND	0.046		mg/Kg	1	1/23/2023 6:20:48 PM
Ethylbenzene	ND	0.046		mg/Kg	1	1/23/2023 6:20:48 PM
Xylenes, Total	ND	0.091		mg/Kg	1	1/23/2023 6:20:48 PM
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	1/23/2023 6:20:48 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	3300	150		mg/Kg	50	1/23/2023 1:25:46 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-71 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:54:00 AM

 Lab ID:
 2301764-014
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Result **RL Qual Units** DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: **DGH** Diesel Range Organics (DRO) mg/Kg 390 97 10 1/24/2023 3:54:16 PM Motor Oil Range Organics (MRO) 690 480 mg/Kg 10 1/24/2023 3:54:16 PM 69-147 Surr: DNOP 0 S %Rec 10 1/24/2023 3:54:16 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/23/2023 6:44:10 PM 4.9 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/23/2023 6:44:10 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/23/2023 6:44:10 PM 1 Toluene ND 0.049 mg/Kg 1 1/23/2023 6:44:10 PM Ethylbenzene ND 0.049 mg/Kg 1 1/23/2023 6:44:10 PM Xylenes, Total ND 0.099 mg/Kg 1 1/23/2023 6:44:10 PM 1/23/2023 6:44:10 PM Surr: 4-Bromofluorobenzene 96.4 70-130 %Rec 1 **EPA METHOD 300.0: ANIONS** Analyst: CAS Chloride 2400 150 1/23/2023 1:38:38 PM ma/Ka 50

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-72 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 8:50:00 AM

 Lab ID:
 2301764-015
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: **DGH** Diesel Range Organics (DRO) 410 49 mg/Kg 5 1/24/2023 2:43:06 PM Motor Oil Range Organics (MRO) 5 610 250 mg/Kg 1/24/2023 2:43:06 PM Surr: DNOP 104 69-147 %Rec 5 1/24/2023 2:43:06 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/23/2023 7:07:36 PM 4.7 mg/Kg 1 Surr: BFB 100 37.7-212 %Rec 1 1/23/2023 7:07:36 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/23/2023 7:07:36 PM 0.024 mg/Kg 1 Toluene ND 0.047 mg/Kg 1 1/23/2023 7:07:36 PM Ethylbenzene ND 0.047 mg/Kg 1 1/23/2023 7:07:36 PM Xylenes, Total ND 0.094 mg/Kg 1 1/23/2023 7:07:36 PM Surr: 4-Bromofluorobenzene 94.5 70-130 %Rec 1 1/23/2023 7:07:36 PM **EPA METHOD 300.0: ANIONS** Analyst: CAS Chloride 2700 150 1/23/2023 1:51:29 PM ma/Ka 50

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
- QL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-73 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 9:00:00 AM

 Lab ID:
 2301764-016
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	Analyst: SB				
Diesel Range Organics (DRO)	150	19	mg/Kg	2	1/24/2023 6:07:16 PM
Motor Oil Range Organics (MRO)	240	93	mg/Kg	2	1/24/2023 6:07:16 PM
Surr: DNOP	118	69-147	%Rec	2	1/24/2023 6:07:16 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/23/2023 7:30:55 PM
Surr: BFB	101	37.7-212	%Rec	1	1/23/2023 7:30:55 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2023 7:30:55 PM
Toluene	ND	0.049	mg/Kg	1	1/23/2023 7:30:55 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/23/2023 7:30:55 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/23/2023 7:30:55 PM
Surr: 4-Bromofluorobenzene	93.9	70-130	%Rec	1	1/23/2023 7:30:55 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	7800	300	mg/Kg	100	1/23/2023 2:04:20 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-74 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 9:03:00 AM

 Lab ID:
 2301764-017
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Result **RL Qual Units** DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: **DGH** Diesel Range Organics (DRO) 160 9.5 mg/Kg 1 1/24/2023 2:19:11 PM Motor Oil Range Organics (MRO) 220 48 mg/Kg 1 1/24/2023 2:19:11 PM 69-147 Surr: DNOP 126 %Rec 1 1/24/2023 2:19:11 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/23/2023 7:54:13 PM 4.7 mg/Kg 1 Surr: BFB 103 37.7-212 %Rec 1 1/23/2023 7:54:13 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/23/2023 7:54:13 PM 0.024 mg/Kg 1 Toluene ND 0.047 mg/Kg 1 1/23/2023 7:54:13 PM Ethylbenzene ND 0.047 mg/Kg 1 1/23/2023 7:54:13 PM Xylenes, Total ND 0.095 mg/Kg 1 1/23/2023 7:54:13 PM Surr: 4-Bromofluorobenzene 96.2 70-130 %Rec 1 1/23/2023 7:54:13 PM **EPA METHOD 300.0: ANIONS** Analyst: CAS Chloride 11000 600 1/23/2023 2:17:11 PM ma/Ka 200

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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS23-75 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/18/2023 9:03:00 AM

 Lab ID:
 2301764-018
 Matrix: SOIL
 Received Date: 1/20/2023 7:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OF	Analyst: DGH				
Diesel Range Organics (DRO)	66	9.6	mg/Kg	1	1/24/2023 2:22:49 PM
Motor Oil Range Organics (MRO)	140	48	mg/Kg	1	1/24/2023 2:22:49 PM
Surr: DNOP	118	69-147	%Rec	1	1/24/2023 2:22:49 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/23/2023 8:17:29 PM
Surr: BFB	103	37.7-212	%Rec	1	1/23/2023 8:17:29 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/23/2023 8:17:29 PM
Toluene	ND	0.048	mg/Kg	1	1/23/2023 8:17:29 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/23/2023 8:17:29 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/23/2023 8:17:29 PM
Surr: 4-Bromofluorobenzene	96.3	70-130	%Rec	1	1/23/2023 8:17:29 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	7700	300	mg/Kg	100	1/23/2023 2:30:03 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301764**

30-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: MB-72743 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72743 RunNo: 94110

Prep Date: 1/21/2023 Analysis Date: 1/21/2023 SeqNo: 3398042 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72743 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72743 RunNo: 94110

Prep Date: 1/21/2023 Analysis Date: 1/21/2023 SeqNo: 3398043 Units: mg/Kg

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

Chloride 15 1.5 15.00 0 97.1 90 110

Sample ID: MB-72744 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72744 RunNo: 94110

Prep Date: 1/21/2023 Analysis Date: 1/21/2023 SeqNo: 3398072 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72744 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72744 RunNo: 94110

Prep Date: 1/21/2023 Analysis Date: 1/21/2023 SeqNo: 3398073 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 95.7 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 Quantitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Client:

Project:

Analyte

Surr: DNOP

Hall Environmental Analysis Laboratory, Inc.

Vertex Resources Services, Inc.

Hackberry 6 Fed 1 Well Pad

Result

6.5

WO#: **2301764**

30-Jan-23

Sample ID: LCS-72740	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	_
Client ID: LCSS	Batch	n ID: 72 7	740	F	RunNo: 9	4119				
Prep Date: 1/20/2023	Analysis D	ate: 1/	23/2023	S	SeqNo: 3	399136	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.7	61.9	130			
Surr: DNOP	5.4		5.000		108	69	147			
Sample ID: MB-72740	SampT	уре: МЕ	======================================	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch	n ID: 72	740	F	RunNo: 94119					
Prep Date: 1/20/2023	Analysis D	ate: 1/	23/2023	\$	SeqNo: 3	399140	Units: mg/k	(g		
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	69	147			
Sample ID: LCS-72755	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	n ID: 72 7	755	F	RunNo: 9	4153				
Prep Date: 1/23/2023	Analysis D	ate: 1/	24/2023	9	SeqNo: 3	399719	Units: %Re	С		

Sample ID: LCS-72769	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 72769	RunNo: 94153						
Prep Date: 1/23/2023	rep Date: 1/23/2023 Analysis Date: 1/24/2023		Units: %Rec					
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual					
Surr: DNOP	5.5 5.000	109 69	147					

LowLimit

69

129

HighLimit

147

%RPD

RPDLimit

Qual

SPK value SPK Ref Val %REC

5.000

Sample ID: MB-72755	SampType: MBLK	TestCode: E	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 72755	RunNo: 9	94153						
Prep Date: 1/23/2023	Prep Date: 1/23/2023 Analysis Date: 1/24/2023			nits: %Rec					
Analyte	Result PQL SPK	value SPK Ref Val %REC	LowLimit H	lighLimit %RPD	RPDLimit	Qual			
Surr: DNOP	13	10.00 126	69	147					

Sample ID: MB-72769	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 72769	RunNo: 94153						
Prep Date: 1/23/2023	Analysis Date: 1/24/2023	SeqNo: 3399723	Units: %Rec					
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual					

Surr: DNOP 11 10.00 106 69 147

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 2301764 30-Jan-23

Client: Vertex Resources Services, Inc. **Project:** Hackberry 6 Fed 1 Well Pad

Sample ID: 2301764-001AMS SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: BS23-58 4' Batch ID: 72740 RunNo: 94153

Prep Date: 1/20/2023 Analysis Date: 1/24/2023 SeqNo: 3400095 Units: mg/Kg

PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result LowLimit Qual Diesel Range Organics (DRO) 182.6 S 180 19 48.26 -9.97 54.2 135

Surr: DNOP 6.9 4.826 144 147

Sample ID: 2301764-001AMSD TestCode: EPA Method 8015M/D: Diesel Range Organics SampType: MSD

Client ID: BS23-58 4' Batch ID: 72740 RunNo: 94153

Prep Date: 1/20/2023 Analysis Date: 1/24/2023 SeqNo: 3400096 Units: mg/Kg

RPDLimit Qual Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD Diesel Range Organics (DRO) 29.2 240 19 48.73 182.6 125 54.2 135 31.3 R Surr: DNOP 4.873 140 0 0 6.8 69 147

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301764** *30-Jan-23*

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: Ics-72733	SampT	ype: LC	s	Tes	TestCode: EPA Method 8015D: Gasoline Range					
Client ID: LCSS	Batch	ID: 72	733	RunNo: 94128						
Prep Date: 1/20/2023	Analysis Date: 1/23/2023			9	SeqNo: 3	398776	Units: mg/k	(g		
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	72.3	137			
Surr: BFB	2000		1000		197	37.7	212			
Sample ID: mb-72733	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Sample ID: mb-72733 Client ID: PBS	•	ype: ME ID: 72			tCode: El		8015D: Gaso	line Rang	e	
	•	ID: 72 7		F		4128	8015D: Gaso	J	e	
Client ID: PBS	Batch	ID: 72 7	733 23/2023	F	RunNo: 9	4128		J	e RPDLimit	Qual
Client ID: PBS Prep Date: 1/20/2023	Batch Analysis D	i ID: 72 7 ate: 1/ 2	733 23/2023	F	RunNo: 94 SeqNo: 33	4128 398778	Units: mg/k	(g		Qual

Sample ID: 2301764-001ams	SampT	ype: MS	3	Test							
Client ID: BS23-58 4'	Batch	ID: 72	733	RunNo: 94128							
Prep Date: 1/20/2023	Analysis D	Analysis Date: 1/23/2023			SeqNo: 3398802			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	27	4.8	23.81	0	115	70	130				
Surr: BFB	1100		952.4		120	37.7	212				

Sample ID: 2301764-001ams	d SampT	ype: MS	SD	Tes	TestCode: EPA Method 8015D: Gasoline Range					
Client ID: BS23-58 4'	Batch	n ID: 72	733	F	RunNo: 9	4128				
Prep Date: 1/20/2023	Analysis D	Date: 1/	23/2023	8	SeqNo: 3	398803	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.7	23.56	0	117	70	130	0.823	20	
Surr: BFB	1100		942.5		121	37.7	212	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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301764**

30-Jan-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: LCS-72733	D: LCS-72733 SampType: LCS				TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batcl	n ID: 72 7	733	R	tunNo: 94							
Prep Date: 1/20/2023	Analysis Date: 1/23/2023 SeqNo: 3398826					398826	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	0.83	0.025	1.000	0	83.1	80	120					
Toluene	0.88	0.050	1.000	0	88.2	80	120					
Ethylbenzene	0.90	0.050	1.000	0	89.6	80	120					
Xylenes, Total	2.7	0.10	3.000	0	89.7	80	120					
Surr: 4-Bromofluorobenzene	0.98		1.000		97.8	70	130					

Sample ID: mb-72733	SampType: MBLK			Test	tCode: EF	iles					
Client ID: PBS	Batch ID: 72733			R	RunNo: 94128						
Prep Date: 1/20/2023	Analysis Date: 1/23/2023			S	SeqNo: 3	398828	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.025		<u> </u>		<u> </u>					
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	70	130				

Sample ID: 2301764-002ams	TestCode: EPA Method 8021B: Volatiles									
Client ID: BS23-59 4'	Batc	h ID: 72	733	F	RunNo: 9					
Prep Date: 1/20/2023	Analysis [Date: 1/	23/2023	9	SeqNo: 3	398853	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.023	0.9328	0	88.4	68.8	120			
Toluene	0.88	0.047	0.9328	0.01844	92.9	73.6	124			
Ethylbenzene	0.91	0.047	0.9328	0	97.0	72.7	129			
Xylenes, Total	2.7	0.093	2.799	0.02886	95.2	75.7	126			
Surr: 4-Bromofluorobenzene	0.94		0.9328		101	70	130			

Sample ID: 2301764-002amsd	SampT	ype: MS	SD.	Tes	tCode: El					
Client ID: BS23-59 4'	Batch	n ID: 72 7	733	F	RunNo: 94					
Prep Date: 1/20/2023	Analysis D	ate: 1/2	23/2023	S	SeqNo: 3398854 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9560	0	86.8	68.8	120	0.582	20	
Toluene	0.89	0.048	0.9560	0.01844	90.7	73.6	124	0.0653	20	
Ethylbenzene	0.91	0.048	0.9560	0	95.0	72.7	129	0.331	20	
Xylenes, Total	2.7	0.096	2.868	0.02886	93.8	75.7	126	0.961	20	
Surr: 4-Bromofluorobenzene	0.96		0.9560		101	70	130	0	0	

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 23 of 23



Hall Environmental Analysis Laboratory 4901 Hawkins NE

Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

Client Name:	Vertex Resour Services, Inc.	rces	Work	Order Numb	per: 2301764		RcptNo	p: 1
Received By:	Juan Rojas		1/20/20	23 7:20:00 /	λM	June J.		
Completed By:	Sean Living:		1/20/20	23 7:55:37 /	AM	5	yet	
Chain of Cust	tody							
1. Is Chain of Cu	stody complete	∍?			Yes 🗹	No 🗌	Not Present	
2. How was the	sample delivere	ed?			<u>Courier</u>			
<u>Log In</u> 3. Was an attem	ot made to coo	I the sampl	es?		Yes 🗹	No 🗆	na 🗆	
	, , , , , , , , , , , , , , , , , , , ,							
4. Were all samp	les received at	a temperat	ure of >0° C	to 6.0°C	Yes 🔽	No 🗌	na 🗆	
5. Sample(s) in p	roper containe	r(s)?			Yes 🗹	No 🗆		
6. Sufficient same	ple volume for i	indicated te	st(s)?		Yes 🗹	No 🗌		
7. Are samples (e	except VOA and	d ONG) pro	perly preserve	ed?	Yes 🗹	No 🗌		
8. Was preservat	ive added to bo	ottles?			Yes 🗌	No 🗸	NA 🗆	
9. Received at lea	ast 1 vial with h	eadspace <	<1/4" for AQ \	OA?	Yes 🗌	No 🗆	NA 🗹	
10. Were any sam	ple containers	received br	oken?		Yes	No 🗹	# of preserved	
11. Does paperwo	rk match bottle ncies on chain				Yes 🗹	No 🗌	bottles checked for pH:	or >12 unless noted)
12. Are matrices c		• •			Yes 🗹	No 🗌	Adjusted?	
13. Is it clear what					Yes 🗹	No 🗌		. 1 - 1 -
14. Were all holdin	ng times able to estomer for auth				Yes 🗹	No 🗆	Checked by:	Jul (20/25
Special Handli		•				~		
15. Was client not	tified of all disc	repancies w	vith this order	•	Yes 🗆	No 🗆	NA 🗹	_
Person	Notified:			Date:		-		
By Who	m:			Via:	eMail] Phone 🗌 Fax	☐ In Person	
Regardi	ng:							
Client In	structions:							
16. Additional rer	narks:							
17. Cooler Inform	mation							
Cooler No		Condition	Seal Intact	Seal No	Seal Date	Signed By		
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					Project Name:	ö					www.hallenvironmental.com	viron	nenta Etuenta	mos			
Mailin	Mailing Address:	.: 20	lile		Hackber	un le Fe	ny 6 Fed 1 Well Pad	4	4901 Hawkins NE -	vkins ♪	三 - 月	nbnql	erque,	Albuquerque, NM 87109	60		
					Project #:	ָ ס		Ţ	Tel. 505-345-3975	345-3	12.0	Fax	505-3	505-345-4107	The state of		
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□ NELAC	LAC	□ Other			On Ice:	d	□ No					1 '8		1억)			
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					Cooler Temp(Including CF):		3-6.2=1.1 (°C)							Olifo		_	
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If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Cha	in-of-	Chain-of-Custody Record	ly Reco	ord	Turn-Around Time:	Time:							Ì				
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If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Released to Imaging: 10/5/2023 9:14:51 AM



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

January 30, 2023

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

FAX:

RE: Hackberry 6 Fed 1 OrderNo.: 2301754

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 24 sample(s) on 1/21/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-76 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 8:41:00 AM

 Lab ID:
 2301754-001
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS				Analyst: SB
Diesel Range Organics (DRO)	49	9.6	mg/Kg	1	1/25/2023 10:30:09 AM
Motor Oil Range Organics (MRO)	79	48	mg/Kg	1	1/25/2023 10:30:09 AM
Surr: DNOP	114	69-147	%Rec	1	1/25/2023 10:30:09 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/24/2023 1:13:31 PM
Surr: BFB	108	37.7-212	%Rec	1	1/24/2023 1:13:31 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/24/2023 1:13:31 PM
Toluene	ND	0.050	mg/Kg	1	1/24/2023 1:13:31 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/24/2023 1:13:31 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/24/2023 1:13:31 PM
Surr: 4-Bromofluorobenzene	98.6	70-130	%Rec	1	1/24/2023 1:13:31 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	9800	300	mg/Kg	100	1/25/2023 10:08:32 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 32

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-77 4'

Project: Hackberry 6 Fed 1 **Collection Date:** 1/19/2023 8:40:00 AM 2301754-002 Lab ID: Matrix: SOIL **Received Date:** 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS				Analyst: SB
Diesel Range Organics (DRO)	27	9.5	mg/Kg	1	1/25/2023 4:00:52 AM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/25/2023 4:00:52 AM
Surr: DNOP	119	69-147	%Rec	1	1/25/2023 4:00:52 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/24/2023 2:24:14 PM
Surr: BFB	105	37.7-212	%Rec	1	1/24/2023 2:24:14 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 2:24:14 PM
Toluene	ND	0.047	mg/Kg	1	1/24/2023 2:24:14 PM
Ethylbenzene	ND	0.047	mg/Kg	1	1/24/2023 2:24:14 PM
Xylenes, Total	ND	0.094	mg/Kg	1	1/24/2023 2:24:14 PM
Surr: 4-Bromofluorobenzene	97.2	70-130	%Rec	1	1/24/2023 2:24:14 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	8200	300	mg/Kg	100	1/25/2023 10:20:52 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
- Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value Ε
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- RL

Page 2 of 32 Reporting Limit

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-78 4'

Project: Hackberry 6 Fed 1 **Collection Date:** 1/19/2023 8:50:00 AM 2301754-003 Lab ID: Matrix: SOIL **Received Date:** 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O		Analyst: DGH			
Diesel Range Organics (DRO)	96	9.4	mg/Kg	1	1/24/2023 11:08:39 AM
Motor Oil Range Organics (MRO)	140	47	mg/Kg	1	1/24/2023 11:08:39 AM
Surr: DNOP	131	69-147	%Rec	1	1/24/2023 11:08:39 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/24/2023 3:34:38 PM
Surr: BFB	106	37.7-212	%Rec	1	1/24/2023 3:34:38 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/24/2023 3:34:38 PM
Toluene	ND	0.050	mg/Kg	1	1/24/2023 3:34:38 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/24/2023 3:34:38 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/24/2023 3:34:38 PM
Surr: 4-Bromofluorobenzene	98.3	70-130	%Rec	1	1/24/2023 3:34:38 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	6000	300	mg/Kg	100	1/25/2023 10:33:13 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
- Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value Ε
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 3 of 32

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-79 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 8:50:00 AM

 Lab ID:
 2301754-004
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	76	9.6	mg/Kg	1	1/24/2023 12:44:00 PM
Motor Oil Range Organics (MRO)	120	48	mg/Kg	1	1/24/2023 12:44:00 PM
Surr: DNOP	114	69-147	%Rec	1	1/24/2023 12:44:00 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/24/2023 3:58:04 PM
Surr: BFB	107	37.7-212	%Rec	1	1/24/2023 3:58:04 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/24/2023 3:58:04 PM
Toluene	ND	0.048	mg/Kg	1	1/24/2023 3:58:04 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/24/2023 3:58:04 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/24/2023 3:58:04 PM
Surr: 4-Bromofluorobenzene	99.3	70-130	%Rec	1	1/24/2023 3:58:04 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	4200	150	mg/Kg	50	1/25/2023 10:45:34 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 32

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-80 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 8:55:00 AM

 Lab ID:
 2301754-005
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	Analyst: DGH				
Diesel Range Organics (DRO)	380	48	mg/Kg	5	1/24/2023 9:49:00 PM
Motor Oil Range Organics (MRO)	600	240	mg/Kg	5	1/24/2023 9:49:00 PM
Surr: DNOP	114	69-147	%Rec	5	1/24/2023 9:49:00 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/24/2023 4:21:36 PM
Surr: BFB	106	37.7-212	%Rec	1	1/24/2023 4:21:36 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 4:21:36 PM
Toluene	ND	0.046	mg/Kg	1	1/24/2023 4:21:36 PM
Ethylbenzene	ND	0.046	mg/Kg	1	1/24/2023 4:21:36 PM
Xylenes, Total	ND	0.092	mg/Kg	1	1/24/2023 4:21:36 PM
Surr: 4-Bromofluorobenzene	97.7	70-130	%Rec	1	1/24/2023 4:21:36 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2400	150	mg/Kg	50	1/25/2023 10:57:54 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-81 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 8:56:00 AM

 Lab ID:
 2301754-006
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	170	48	mg/Kg	5	1/24/2023 10:36:21 PM
Motor Oil Range Organics (MRO)	320	240	mg/Kg	5	1/24/2023 10:36:21 PM
Surr: DNOP	122	69-147	%Rec	5	1/24/2023 10:36:21 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/24/2023 4:45:05 PM
Surr: BFB	108	37.7-212	%Rec	1	1/24/2023 4:45:05 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 4:45:05 PM
Toluene	ND	0.047	mg/Kg	1	1/24/2023 4:45:05 PM
Ethylbenzene	ND	0.047	mg/Kg	1	1/24/2023 4:45:05 PM
Xylenes, Total	ND	0.093	mg/Kg	1	1/24/2023 4:45:05 PM
Surr: 4-Bromofluorobenzene	98.8	70-130	%Rec	1	1/24/2023 4:45:05 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2100	60	mg/Kg	20	1/24/2023 2:22:54 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

e pH Not In Range Page 6 of 32

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-82 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 8:59:00 AM

 Lab ID:
 2301754-007
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O		Analyst: DGH			
Diesel Range Organics (DRO)	200	9.6	mg/Kg	1	1/24/2023 1:31:35 PM
Motor Oil Range Organics (MRO)	220	48	mg/Kg	1	1/24/2023 1:31:35 PM
Surr: DNOP	122	69-147	%Rec	1	1/24/2023 1:31:35 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/24/2023 5:08:35 PM
Surr: BFB	105	37.7-212	%Rec	1	1/24/2023 5:08:35 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/24/2023 5:08:35 PM
Toluene	ND	0.050	mg/Kg	1	1/24/2023 5:08:35 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/24/2023 5:08:35 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/24/2023 5:08:35 PM
Surr: 4-Bromofluorobenzene	97.6	70-130	%Rec	1	1/24/2023 5:08:35 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1900	60	mg/Kg	20	1/24/2023 2:35:14 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-83 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:00:00 AM

 Lab ID:
 2301754-008
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE (Analyst: DGH				
Diesel Range Organics (DRO)	310	9.5	mg/Kg	1	1/24/2023 3:30:37 PM
Motor Oil Range Organics (MRO)	370	48	mg/Kg	1	1/24/2023 3:30:37 PM
Surr: DNOP	122	69-147	%Rec	1	1/24/2023 3:30:37 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/24/2023 5:32:03 PM
Surr: BFB	104	37.7-212	%Rec	1	1/24/2023 5:32:03 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 5:32:03 PM
Toluene	ND	0.046	mg/Kg	1	1/24/2023 5:32:03 PM
Ethylbenzene	ND	0.046	mg/Kg	1	1/24/2023 5:32:03 PM
Xylenes, Total	ND	0.092	mg/Kg	1	1/24/2023 5:32:03 PM
Surr: 4-Bromofluorobenzene	96.0	70-130	%Rec	1	1/24/2023 5:32:03 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1300	60	mg/Kg	20	1/24/2023 2:47:34 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

e pH Not In Range Page 8 of 32

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-84 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:04:00 AM

 Lab ID:
 2301754-009
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	540	48	mg/Kg	5	1/24/2023 11:23:40 PM
Motor Oil Range Organics (MRO)	890	240	mg/Kg	5	1/24/2023 11:23:40 PM
Surr: DNOP	118	69-147	%Rec	5	1/24/2023 11:23:40 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/24/2023 5:55:31 PM
Surr: BFB	105	37.7-212	%Rec	1	1/24/2023 5:55:31 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/24/2023 5:55:31 PM
Toluene	ND	0.049	mg/Kg	1	1/24/2023 5:55:31 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/24/2023 5:55:31 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/24/2023 5:55:31 PM
Surr: 4-Bromofluorobenzene	98.9	70-130	%Rec	1	1/24/2023 5:55:31 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2400	150	mg/Kg	50	1/25/2023 11:10:14 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-85 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:05:00 AM

 Lab ID:
 2301754-010
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	140	49	mg/Kg	5	1/25/2023 12:10:55 AM
Motor Oil Range Organics (MRO)	ND	240	mg/Kg	5	1/25/2023 12:10:55 AM
Surr: DNOP	116	69-147	%Rec	5	1/25/2023 12:10:55 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/24/2023 6:19:00 PM
Surr: BFB	106	37.7-212	%Rec	1	1/24/2023 6:19:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 6:19:00 PM
Toluene	ND	0.046	mg/Kg	1	1/24/2023 6:19:00 PM
Ethylbenzene	ND	0.046	mg/Kg	1	1/24/2023 6:19:00 PM
Xylenes, Total	ND	0.093	mg/Kg	1	1/24/2023 6:19:00 PM
Surr: 4-Bromofluorobenzene	98.0	70-130	%Rec	1	1/24/2023 6:19:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	3200	150	mg/Kg	50	1/25/2023 11:22:35 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-86 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:08:00 AM

 Lab ID:
 2301754-011
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	Analyst: DGH				
Diesel Range Organics (DRO)	21	9.5	mg/Kg	1	1/24/2023 4:18:10 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/24/2023 4:18:10 PM
Surr: DNOP	108	69-147	%Rec	1	1/24/2023 4:18:10 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/24/2023 7:05:53 PM
Surr: BFB	107	37.7-212	%Rec	1	1/24/2023 7:05:53 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 7:05:53 PM
Toluene	ND	0.046	mg/Kg	1	1/24/2023 7:05:53 PM
Ethylbenzene	ND	0.046	mg/Kg	1	1/24/2023 7:05:53 PM
Xylenes, Total	ND	0.092	mg/Kg	1	1/24/2023 7:05:53 PM
Surr: 4-Bromofluorobenzene	98.8	70-130	%Rec	1	1/24/2023 7:05:53 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1400	60	mg/Kg	20	1/24/2023 3:24:35 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-87 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:08:00 AM

 Lab ID:
 2301754-012
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG		Analyst: DGH			
Diesel Range Organics (DRO)	28	9.1	mg/Kg	1	1/24/2023 4:41:53 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/24/2023 4:41:53 PM
Surr: DNOP	84.9	69-147	%Rec	1	1/24/2023 4:41:53 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/24/2023 7:29:19 PM
Surr: BFB	104	37.7-212	%Rec	1	1/24/2023 7:29:19 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/24/2023 7:29:19 PM
Toluene	ND	0.048	mg/Kg	1	1/24/2023 7:29:19 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/24/2023 7:29:19 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/24/2023 7:29:19 PM
Surr: 4-Bromofluorobenzene	96.7	70-130	%Rec	1	1/24/2023 7:29:19 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1400	60	mg/Kg	20	1/24/2023 3:36:56 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-88 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:12:00 AM

 Lab ID:
 2301754-013
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	Analyst: DGH				
Diesel Range Organics (DRO)	15	9.3	mg/Kg	1	1/24/2023 5:05:42 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/24/2023 5:05:42 PM
Surr: DNOP	112	69-147	%Rec	1	1/24/2023 5:05:42 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/24/2023 7:52:44 PM
Surr: BFB	106	37.7-212	%Rec	1	1/24/2023 7:52:44 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 7:52:44 PM
Toluene	ND	0.047	mg/Kg	1	1/24/2023 7:52:44 PM
Ethylbenzene	ND	0.047	mg/Kg	1	1/24/2023 7:52:44 PM
Xylenes, Total	ND	0.093	mg/Kg	1	1/24/2023 7:52:44 PM
Surr: 4-Bromofluorobenzene	99.7	70-130	%Rec	1	1/24/2023 7:52:44 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	3100	150	mg/Kg	50	1/25/2023 11:34:56 AM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

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

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

ple pH Not In Range Page 13 of 32

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-89 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:12:00 AM

 Lab ID:
 2301754-014
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C		Analyst: DGH			
Diesel Range Organics (DRO)	10	9.7	mg/Kg	1	1/24/2023 5:29:32 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/24/2023 5:29:32 PM
Surr: DNOP	112	69-147	%Rec	1	1/24/2023 5:29:32 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/24/2023 8:16:09 PM
Surr: BFB	105	37.7-212	%Rec	1	1/24/2023 8:16:09 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/24/2023 8:16:09 PM
Toluene	ND	0.048	mg/Kg	1	1/24/2023 8:16:09 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/24/2023 8:16:09 PM
Xylenes, Total	ND	0.095	mg/Kg	1	1/24/2023 8:16:09 PM
Surr: 4-Bromofluorobenzene	98.2	70-130	%Rec	1	1/24/2023 8:16:09 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	5200	150	mg/Kg	50	1/25/2023 12:11:57 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-90 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:14:00 AM

 Lab ID:
 2301754-015
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.0	mg/Kg	1	1/24/2023 5:53:04 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/24/2023 5:53:04 PM
Surr: DNOP	117	69-147	%Rec	1	1/24/2023 5:53:04 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/24/2023 8:39:34 PM
Surr: BFB	106	37.7-212	%Rec	1	1/24/2023 8:39:34 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 8:39:34 PM
Toluene	ND	0.047	mg/Kg	1	1/24/2023 8:39:34 PM
Ethylbenzene	ND	0.047	mg/Kg	1	1/24/2023 8:39:34 PM
Xylenes, Total	ND	0.094	mg/Kg	1	1/24/2023 8:39:34 PM
Surr: 4-Bromofluorobenzene	98.8	70-130	%Rec	1	1/24/2023 8:39:34 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	1000	60	mg/Kg	20	1/24/2023 4:38:40 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-91 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:14:00 AM

 Lab ID:
 2301754-016
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE (ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	1/24/2023 6:16:30 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/24/2023 6:16:30 PM
Surr: DNOP	117	69-147	%Rec	1	1/24/2023 6:16:30 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/24/2023 9:03:00 PM
Surr: BFB	105	37.7-212	%Rec	1	1/24/2023 9:03:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/24/2023 9:03:00 PM
Toluene	ND	0.049	mg/Kg	1	1/24/2023 9:03:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/24/2023 9:03:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/24/2023 9:03:00 PM
Surr: 4-Bromofluorobenzene	97.7	70-130	%Rec	1	1/24/2023 9:03:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2400	60	mg/Kg	20	1/24/2023 4:51:00 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-92 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:24:00 AM

 Lab ID:
 2301754-017
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	44	9.6	mg/Kg	1	1/24/2023 6:39:51 PM
Motor Oil Range Organics (MRO)	60	48	mg/Kg	1	1/24/2023 6:39:51 PM
Surr: DNOP	104	69-147	%Rec	1	1/24/2023 6:39:51 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/24/2023 9:26:20 PM
Surr: BFB	104	37.7-212	%Rec	1	1/24/2023 9:26:20 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	1/24/2023 9:26:20 PM
Toluene	ND	0.049	mg/Kg	1	1/24/2023 9:26:20 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/24/2023 9:26:20 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/24/2023 9:26:20 PM
Surr: 4-Bromofluorobenzene	96.4	70-130	%Rec	1	1/24/2023 9:26:20 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	4300	150	mg/Kg	50	1/25/2023 12:24:17 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-93 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 9:24:00 AM

 Lab ID:
 2301754-018
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	13	9.6	mg/Kg	1	1/24/2023 7:27:00 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/24/2023 7:27:00 PM
Surr: DNOP	128	69-147	%Rec	1	1/24/2023 7:27:00 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/24/2023 9:49:42 PM
Surr: BFB	104	37.7-212	%Rec	1	1/24/2023 9:49:42 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 9:49:42 PM
Toluene	ND	0.046	mg/Kg	1	1/24/2023 9:49:42 PM
Ethylbenzene	ND	0.046	mg/Kg	1	1/24/2023 9:49:42 PM
Xylenes, Total	ND	0.091	mg/Kg	1	1/24/2023 9:49:42 PM
Surr: 4-Bromofluorobenzene	97.8	70-130	%Rec	1	1/24/2023 9:49:42 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	4900	150	mg/Kg	50	1/25/2023 12:36:38 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-94 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 1:27:00 PM

 Lab ID:
 2301754-019
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	80	9.3	mg/Kg	1	1/24/2023 7:50:39 PM
Motor Oil Range Organics (MRO)	130	47	mg/Kg	1	1/24/2023 7:50:39 PM
Surr: DNOP	126	69-147	%Rec	1	1/24/2023 7:50:39 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/24/2023 10:13:07 PM
Surr: BFB	101	37.7-212	%Rec	1	1/24/2023 10:13:07 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.023	mg/Kg	1	1/24/2023 10:13:07 PM
Toluene	ND	0.047	mg/Kg	1	1/24/2023 10:13:07 PM
Ethylbenzene	ND	0.047	mg/Kg	1	1/24/2023 10:13:07 PM
Xylenes, Total	ND	0.094	mg/Kg	1	1/24/2023 10:13:07 PM
Surr: 4-Bromofluorobenzene	94.6	70-130	%Rec	1	1/24/2023 10:13:07 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2600	150	mg/Kg	50	1/25/2023 12:48:58 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-95 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 1:27:00 PM

 Lab ID:
 2301754-020
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	33	10	mg/Kg	1	1/24/2023 8:37:58 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/24/2023 8:37:58 PM
Surr: DNOP	115	69-147	%Rec	1	1/24/2023 8:37:58 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/24/2023 10:36:28 PM
Surr: BFB	104	37.7-212	%Rec	1	1/24/2023 10:36:28 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/24/2023 10:36:28 PM
Toluene	ND	0.049	mg/Kg	1	1/24/2023 10:36:28 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/24/2023 10:36:28 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/24/2023 10:36:28 PM
Surr: 4-Bromofluorobenzene	96.9	70-130	%Rec	1	1/24/2023 10:36:28 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2100	60	mg/Kg	20	1/24/2023 5:40:22 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-96 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 1:32:00 PM

 Lab ID:
 2301754-021
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	470	49	mg/Kg	5	1/25/2023 12:58:06 AM
Motor Oil Range Organics (MRO)	610	250	mg/Kg	5	1/25/2023 12:58:06 AM
Surr: DNOP	114	69-147	%Rec	5	1/25/2023 12:58:06 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/24/2023 9:20:00 PM
Surr: BFB	93.1	37.7-212	%Rec	1	1/24/2023 9:20:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.023	mg/Kg	1	1/24/2023 9:20:00 PM
Toluene	ND	0.046	mg/Kg	1	1/24/2023 9:20:00 PM
Ethylbenzene	ND	0.046	mg/Kg	1	1/24/2023 9:20:00 PM
Xylenes, Total	ND	0.093	mg/Kg	1	1/24/2023 9:20:00 PM
Surr: 4-Bromofluorobenzene	92.8	70-130	%Rec	1	1/24/2023 9:20:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2700	150	mg/Kg	50	1/25/2023 1:01:19 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

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-97 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 1:32:00 PM

 Lab ID:
 2301754-022
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: DGH
Diesel Range Organics (DRO)	63	9.9	mg/Kg	1	1/24/2023 9:01:39 PM
Motor Oil Range Organics (MRO)	94	50	mg/Kg	1	1/24/2023 9:01:39 PM
Surr: DNOP	119	69-147	%Rec	1	1/24/2023 9:01:39 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/24/2023 10:19:00 PM
Surr: BFB	93.6	37.7-212	%Rec	1	1/24/2023 10:19:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/24/2023 10:19:00 PM
Toluene	ND	0.047	mg/Kg	1	1/24/2023 10:19:00 PM
Ethylbenzene	ND	0.047	mg/Kg	1	1/24/2023 10:19:00 PM
Xylenes, Total	ND	0.095	mg/Kg	1	1/24/2023 10:19:00 PM
Surr: 4-Bromofluorobenzene	93.7	70-130	%Rec	1	1/24/2023 10:19:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2200	150	mg/Kg	50	1/25/2023 1:13:39 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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-98 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 1:35:00 PM

 Lab ID:
 2301754-023
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: SB
Diesel Range Organics (DRO)	39	9.5	mg/Kg	1	1/24/2023 11:50:51 AM
Motor Oil Range Organics (MRO)	69	47	mg/Kg	1	1/24/2023 11:50:51 AM
Surr: DNOP	90.7	69-147	%Rec	1	1/24/2023 11:50:51 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/24/2023 11:18:00 PM
Surr: BFB	93.1	37.7-212	%Rec	1	1/24/2023 11:18:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/24/2023 11:18:00 PM
Toluene	ND	0.048	mg/Kg	1	1/24/2023 11:18:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/24/2023 11:18:00 PM
Xylenes, Total	ND	0.095	mg/Kg	1	1/24/2023 11:18:00 PM
Surr: 4-Bromofluorobenzene	90.3	70-130	%Rec	1	1/24/2023 11:18:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2300	60	mg/Kg	20	1/24/2023 7:06:48 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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

ple pH Not In Range
orting Limit Page 23 of 32

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-99 4'

 Project:
 Hackberry 6 Fed 1
 Collection Date: 1/19/2023 1:35:00 PM

 Lab ID:
 2301754-024
 Matrix: SOIL
 Received Date: 1/21/2023 10:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS				Analyst: SB
Diesel Range Organics (DRO)	39	9.4	mg/Kg	1	1/24/2023 12:19:28 PM
Motor Oil Range Organics (MRO)	80	47	mg/Kg	1	1/24/2023 12:19:28 PM
Surr: DNOP	93.8	69-147	%Rec	1	1/24/2023 12:19:28 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/24/2023 11:37:00 PM
Surr: BFB	91.2	37.7-212	%Rec	1	1/24/2023 11:37:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/24/2023 11:37:00 PM
Toluene	ND	0.048	mg/Kg	1	1/24/2023 11:37:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/24/2023 11:37:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/24/2023 11:37:00 PM
Surr: 4-Bromofluorobenzene	92.1	70-130	%Rec	1	1/24/2023 11:37:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2300	60	mg/Kg	20	1/24/2023 7:43:50 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301754** *30-Jan-23*

Client: Devon Energy
Project: Hackberry 6 Fed 1

Sample ID: MB-72771 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72771 RunNo: 94168

Prep Date: 1/23/2023 Analysis Date: 1/24/2023 SeqNo: 3400465 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72771 SampType: Ics TestCode: EPA Method 300.0: Anions Client ID: LCSS Batch ID: 72771 RunNo: 94168 Prep Date: 1/23/2023 Analysis Date: 1/24/2023 SeqNo: 3400466 Units: mg/Kg **RPDLimit** Result **PQL** SPK value SPK Ref Val %REC LowLimit %RPD Qual

 Analyte
 Result
 PQL
 SPK value
 SPK Ref Val
 %REC
 LowLimit
 HighLimit
 %

 Chloride
 14
 1.5
 15.00
 0
 94.3
 90
 110

 Sample ID:
 MB-72790
 SampType:
 mblk
 TestCode:
 EPA Method 300.0:
 Anions

 Client ID:
 PBS
 Batch ID:
 72790
 RunNo:
 94168

 Prep Date:
 1/24/2023
 Analysis Date:
 1/24/2023
 SeqNo:
 3400495
 Units:
 mg/Kg

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

Sample ID: LCS-72790 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 72790 RunNo: 94168

Prep Date: 1/24/2023 Analysis Date: 1/24/2023 SeqNo: 3400496 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 93.1 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 2301754 30-Jan-23

Client: Devon Energy
Project: Hackberry 6 Fed 1

Project: Hackber	rry 6 Fed 1								
Sample ID: MB-72763	SampType: ME	BLK	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	Organics	
Client ID: PBS	Batch ID: 727	763	F	RunNo: 9 4	1149				
Prep Date: 1/23/2023	Analysis Date: 1/2	24/2023	5	SeqNo: 33	99774	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND 10					-			
Motor Oil Range Organics (MRO)	ND 50								
Surr: DNOP	9.8	10.00		98.4	69	147			
Sample ID: LCS-72763	SampType: LC	S	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch ID: 727	763	F	RunNo: 9 4	1149				
Prep Date: 1/23/2023	Analysis Date: 1/2	24/2023	9	SeqNo: 33	99775	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42 10	50.00	0	84.3	61.9	130			
Surr: DNOP	4.5	5.000		90.2	69	147			
Sample ID: MB-72760	SampType: ME	BLK	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	Organics	
Client ID: PBS	Batch ID: 727	760	F	RunNo: 9 4	1149				
Prep Date: 1/23/2023	Analysis Date: 1/2	24/2023	\$	SeqNo: 34	100226	Units: mg/K	g		
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		122	69	147			
Sample ID: LCS-72760	SampType: LC	S	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch ID: 727	760	F	RunNo: 9 4	1149				
Prep Date: 1/23/2023	Analysis Date: 1/2	24/2023	\$	SeqNo: 34	100227	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47 10	50.00	0	94.6	61.9	130	_		
Surr: DNOP	5.5	5.000		110	69	147			
Sample ID: LCS-72784	SampType: LC	s	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch ID: 727	784	F	RunNo: 94	1184				
Prep Date: 1/24/2023	Analysis Date: 1/2	25/2023	S	SeqNo: 34	101254	Units: %Rec			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.8	5.000		116	69	147			

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

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Hall Environmental Analysis Laboratory, Inc.

ND

ND

10

WO#: 2301754

30-Jan-23

Client:	Devon Energy
Project:	Hackberry 6 Fed 1

Diesel Range Organics (DRO)

Motor Oil Range Organics (MRO)

Sample ID: MB-72784	SampType: MBLK	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 72784	RunNo: 94184						
Prep Date: 1/24/2023	Analysis Date: 1/25/2023	SeqNo: 3401255 Units: %Rec						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual						
Surr: DNOP	10 10.00	104 69 147						
Sample ID: MB-72768	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 72768	RunNo: 94143						
Prep Date: 1/23/2023	Analysis Date: 1/24/2023	SeqNo: 3402245 Units: mg/Kg						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual						

Surr: DNOP	10		10.00		100	69	147			
Sample ID: LCS-72768	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch	i ID: 727	'68	F	RunNo: 94	4143				
Prep Date: 1/23/2023	Analysis D	ate: 1/2	24/2023	9	SeqNo: 34	402246	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	114	61.9	130			
Surr: DNOP	5.4		5.000		108	69	147			

Sample ID: 2301754-003AMS	Samp	Гуре: МЅ	;	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: BS23-78 4'	Batcl	h ID: 72 7	768	F	RunNo: 94	1143				
Prep Date: 1/23/2023	Analysis [Date: 1/2	24/2023	5	SeqNo: 34	102250	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	150	8.9	44.52	96.37	129	54.2	135			
Surr: DNOP	5.4		4.452		121	69	147			

Sample ID:	2301754-003AMSD	SampT	ype: MS	D	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID:	BS23-78 4'	Batch	ID: 727	768	F	RunNo: 94	1143				
Prep Date:	1/23/2023	Analysis D	ate: 1/2	24/2023	5	SeqNo: 34	102251	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	rganics (DRO)	230	9.4	46.95	96.37	293	54.2	135	41.3	29.2	RS
Surr: DNOP		5.2		4.695		112	69	147	0	0	

Qualifiers:

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301754**

30-Jan-23

Client: Devon Energy
Project: Hackberry 6 Fed 1

Sample ID:	lcs-72751	SampT	ype: LC	s	Tes	tCode: EF	PA Method	8015D: Gasoli	ne Range		
Client ID:	LCSS	Batch	ID: 72	751	F	RunNo: 94	4163				
Prep Date:	1/23/2023	Analysis D	ate: 1/	24/2023	5	SeqNo: 33	399948	Units: mg/Kg	9		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
•	e Organics (GRO)	31	5.0	25.00	0	123	72.3	137			
Surr: BFB		1200		1000		121	37.7	212			
Sample ID:	lcs-72773	SampT	ype: LC	s	Tes	tCode: EF	PA Method	8015D: Gasoli	ne Range		
Client ID:	LCSS	Batch	ID: 72	773	F	RunNo: 94	1163				
Prep Date:	1/23/2023	Analysis D	ate: 1/	24/2023	5	SeqNo: 33	399950	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1200		1000		116	37.7	212			
Sample ID:	mb-72751	SampT	ype: ME	3LK	Tes	tCode: EF	PA Method	8015D: Gasoli	ne Range		
Client ID:	PBS	Batch	ID: 72	751	F	RunNo: 94	1163				
Prep Date:	1/23/2023	Analysis D	ate: 1/	24/2023	5	SeqNo: 33	399952	Units: mg/Kg	9		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
_	e Organics (GRO)	ND	5.0								
Surr: BFB		1100		1000		109	37.7	212			
Sample ID:	mb-72773	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8015D: Gasoli	ne Range		
Client ID:	PBS	Batch	ID: 72	773	F	RunNo: 94	1163				
Prep Date:	1/23/2023	Analysis D	ate: 1/	25/2023	9	SeqNo: 33	399954	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1000		1000		102	37.7	212			
Sample ID:	2301754-001ams	SampT	уре: м .	<u> </u>	Tes	tCode: EF	PA Method	8015D: Gasoli	ne Range		
Client ID:	BS23-76 4'	Batch	ID: 72	751	F	RunNo: 94	1163				
Prep Date:	1/23/2023	Analysis D	ate: 1/	24/2023	5	SeqNo: 33	399987	Units: mg/Kg	9		

Gasoline Range Organics (Surr: BFB	,	29 4 00	987 987		11 12			130 212		
Sample ID: 2301754-	001amsd Sa	ampType:	MSD	Т	estCode:	EPA Metho	d 8015D:	Gasoline	Range	
Client ID: BS23-76	Į'	Batch ID:	72751		RunNo:	94163				
Prep Date: 1/23/202	3 Analy	ysis Date:	1/24/2023		SeqNo:	3399988	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	24.95	0	119	70	130	2.72	20	
Surr: BFB	1200		998.0		122	37.7	212	0	0	

SPK value SPK Ref Val %REC

Qualifiers:

Analyte

- 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

Result

B Analyte detected in the associated Method Blank

LowLimit

HighLimit

%RPD

RPDLimit

- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301754**

30-Jan-23

Client: Devon Energy
Project: Hackberry 6 Fed 1

Project:	Hackberry	6 Fed 1									
Sample ID:	lcs-72758	SampT	ype: LC	s	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID:	LCSS	Batch	n ID: 72 7	758	F	RunNo: 94	1 152				
Prep Date:	1/23/2023	Analysis D	Date: 1/3	24/2023	9	SeqNo: 34	100159	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
•	e Organics (GRO)	27	5.0	25.00	0	106	72.3	137			
Surr: BFB		1100		1000		109	37.7	212			
Sample ID:	mb-72758	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID:	PBS	Batch	n ID: 72 7	758	F	RunNo: 94	1 152				
Prep Date:	1/23/2023	Analysis D	Date: 1/2	24/2023	5	SeqNo: 34	100160	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	ND	5.0								
Surr: BFB		950		1000		94.8	37.7	212			
Sample ID:	2301754-021ams	SampT	уре: МЅ	3	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID:	BS23-96 4'	Batch	n ID: 72 7	758	F	RunNo: 94	1152				
Prep Date:	1/23/2023	Analysis D	Date: 1/2	24/2023	5	SeqNo: 34	100164	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	24	4.6	23.13	0	103	70	130			
Surr: BFB		950		925.1		103	37.7	212			
Sample ID:	2301754-021amsd	SampT	уре: МЅ	SD	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID:	BS23-96 4'	Batch	n ID: 72 7	758	F	RunNo: 94	1152				
Prep Date:	1/23/2023	Analysis D	Date: 1/3	24/2023		SeqNo: 34	100165	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
•	e Organics (GRO)	23	4.6	23.21	0	99.3	70	130	2.96	20	
Surr: BFB		1000		928.5		111	37.7	212	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
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301754** *30-Jan-23*

Client: Devon Energy
Project: Hackberry 6 Fed 1

Sample ID: LCS-72751	Samp1	Гуре: LC	S	TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batcl	h ID: 72 7	751	F	RunNo: 94	4163				
Prep Date: 1/23/2023	Analysis [Date: 1/2	24/2023	5	SeqNo: 34	400008	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.0	80	120			
Toluene	0.95	0.050	1.000	0	95.4	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.0	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.7	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			
Sample ID: LCS-72773	Samp	Гуре: LC	s	TestCode: EPA Method 8021B: Volatiles						

Sample ID: LCS-72773	SampTy	ype: LC	S	Tes	tCode: EF	PA Method	8021B: Volati	les			
Client ID: LCSS	Batch	ID: 72 7	773	F	RunNo: 94	1163					
Prep Date: 1/23/2023	Analysis Da	ate: 1/2	25/2023	5	SeqNo: 34	100009	Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 4-Bromofluorobenzene	0.98		1.000		97.6	70	130				

Sample ID: mb-72751	SampType: MBLK			751 SampType: MBLK TestCode: EPA Method 8021B: Volatiles							TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batcl	h ID: 72 7	751	F	RunNo: 94	4163											
Prep Date: 1/23/2023	Analysis [Date: 1/2	24/2023	5	SeqNo: 34	400010	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: 4-Bromofluorohenzene	1.0		1 000		101	70	130										

Sample ID: mb-72773	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles					
Client ID: PBS	Batch ID: 72773	RunNo: 94163					
Prep Date: 1/23/2023	Analysis Date: 1/25/2023	SeqNo: 340001	11 Units: %Rec				
Analyte	Result PQL SPK va	ue SPK Ref Val %REC Low	wLimit HighLimit %RPD	RPDLimit Qual			
Surr: 4-Bromofluorohenzene	0.96 1.0	00 95.5	70 130				

Sample ID: 2301754-002ams	SampT	уре: МЅ	3	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: BS23-77 4'	Batcl	n ID: 72 7	751	F	RunNo: 94	1163				
Prep Date: 1/23/2023	Analysis D	Date: 1/2	24/2023	5	SeqNo: 34	100030	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.023	0.9363	0	88.8	68.8	120			
Toluene	0.88	0.047	0.9363	0.01662	92.5	73.6	124			
Ethylbenzene	0.91	0.047	0.9363	0	97.1	72.7	129			
Xylenes, Total	2.7	0.094	2.809	0.02836	95.1	75.7	126			

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301754**

30-Jan-23

Client: Devon Energy
Project: Hackberry 6 Fed 1

Sample ID: 2301754-002ams	SampT	уре: м .	3	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: BS23-77 4'	Batch	1D: 72 7	751	F	RunNo: 94	1163				
Prep Date: 1/23/2023	Analysis D	ate: 1/3	24/2023	5	SeqNo: 34	100030	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		0.9363		99.4	70	130			

Sample ID: 2301754-002amsd	SampT	ype: MS	D	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: BS23-77 4'	Batch	ID: 727	'51	F	RunNo: 94	1163				
Prep Date: 1/23/2023	Analysis Da	ate: 1/2	24/2023	5	SeqNo: 34	100031	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.023	0.9355	0	88.4	68.8	120	0.568	20	
Toluene	0.88	0.047	0.9355	0.01662	92.6	73.6	124	0.0724	20	
Ethylbenzene	0.91	0.047	0.9355	0	97.2	72.7	129	0.0505	20	
Xylenes, Total	2.7	0.094	2.806	0.02836	96.1	75.7	126	0.910	20	
Surr: 4-Bromofluorobenzene	0.94		0.9355		101	70	130	0	0	

Sample ID: Ics-72/58	Samp	ype: LC	S	res	tCode: El	'A Method	8021B: Volati	les		
Client ID: LCSS	Batcl	h ID: 72 7	758	F	RunNo: 94	1152				
Prep Date: 1/23/2023	Analysis [Date: 1/2	24/2023	5	SeqNo: 34	100370	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.0	80	120			
Toluene	0.93	0.050	1.000	0	92.6	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.4	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.3	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.4	70	130			

Sample ID: mb-72758	Samp ¹	Гуре: МЕ	BLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batc	h ID: 72 7	758	F	RunNo: 94	4152				
Prep Date: 1/23/2023	Analysis [Date: 1/3	24/2023	9	SeqNo: 34	400371	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: 4-Bromofluorobenzene	0.94		1.000		93.7	70	130			

Sample ID: 2301754-022ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles
Client ID: BS23-97 4'	Batch ID: 72758	RunNo: 94152
Prep Date: 1/23/2023	Analysis Date: 1/24/2	2023 SeqNo: 3400376 Units: mg/Kg
Analyte	Result PQL SF	PK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2301754**

30-Jan-23

Client: Devon Energy
Project: Hackberry 6 Fed 1

Sample ID: 2301754-022ams	Samp	Гуре: МЅ	1	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: BS23-97 4'	Batcl	h ID: 72 7	758	F	RunNo: 94	1152				
Prep Date: 1/23/2023	Analysis [Date: 1/2	24/2023	5	SeqNo: 34	100376	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.024	0.9506	0	92.3	68.8	120			
Toluene	0.88	0.048	0.9506	0	92.6	73.6	124			
Ethylbenzene	0.87	0.048	0.9506	0	91.8	72.7	129			
Xylenes, Total	2.6	0.095	2.852	0	91.2	75.7	126			
Surr: 4-Bromofluorobenzene	0.90		0.9506		94.9	70	130			

Sample ID: 2301754-022amso	s Samp	Туре: МЅ	SD	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: BS23-97 4'	Batc	h ID: 72 7	758	F	RunNo: 94	4152				
Prep Date: 1/23/2023	Analysis I	Date: 1/ 2	24/2023		SeqNo: 34	400377	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.024	0.9533	0	98.0	68.8	120	6.29	20	
Toluene	0.93	0.048	0.9533	0	98.0	73.6	124	5.93	20	
Ethylbenzene	0.92	0.048	0.9533	0	96.9	72.7	129	5.67	20	
Xylenes, Total	2.8	0.095	2.860	0	96.6	75.7	126	6.08	20	
Surr: 4-Bromofluorobenzene	0.92		0.9533		96.2	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 standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

					w.natienvironmen			
Client Name:	Devon Ene	rgy	Work	Order Nun	nber: 2301754		RcptNo	: 1
Received By:	Juan Roja	as	1/21/20	23 10:30:0	0 AM	Hansay.		
Completed By:	Juan Roja	as	1/21/20	23 10:55:1	5 AM	Hans &	-	
Reviewed By:	JA + 1-	7-53				,		
Chain of Cust	ody					_	_	
1. Is Chain of Cu	stody comp	lete?			Yes 🗌	No 🗹	Not Present \square	
2. How was the s	sample deliv	rered?			Courier			
<u>Log In</u>								
3. Was an attem	pt made to	cool the samp	les?		Yes 🗹	No 🗌	NA 🗆	
4. Were all sample	les received	at a tempera	ture of >0° C	to 6.0°C	Yes 🗸	No 🗌	NA \square	
5. Sample(s) in p	roper conta	iner(s)?			Yes 🗸	No 🗌		
6. Sufficient samp	ole volume f	or indicated te	est(s)?		Yes 🗹	No 🗌		
7. Are samples (e	xcept VOA	and ONG) pro	perly preserve	ed?	Yes 🗸	No 🗌		
8. Was preservati	ive added to	bottles?			Yes	No 🔽	NA 🗌	
9. Received at lea	ast 1 vial wit	h headspace	<1/4" for AQ \	OA?	Yes	No 🗌	NA 🗹	
10. Were any sam	ple containe	ers received b	roken?		Yes	No 🗹	# a5	
11. Does paperwor					Yes 🗹	No 🗌	# of preserved bottles checked for pH:	r >12 upless noted)
(Note discrepai 2. Are matrices co					Yes 🗸	No 🗆	Adjusted?	>12 ubless floted)
3. Is it clear what			-		Yes 🗹	No 🗆		
4. Were all holdin	g times able	to be met?	•		Yes 🗹	No 🗆	Checked by:	Ju 421/23
(If no, notify cu						6		
Spec <i>ial Handlii</i> 15. Was client noti			vith this order	,	Yes 🗌	No 🗌	NA 🗹	
Person N				Date				
By Whor	n:			Via:	eMail	Phone Fax	In Person	
Regardin								
Client Ins	structions:		1-00-					
16. Additional rem	narks:	-						-
Missing	phone numb	er and email	address. JR 1	/21/23				
17. <u>Cooler Inforn</u>								
Cooler No	Temp ⁰C	Condition	Seal Intact	Seal No	Seal Date	Signed By		
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Chain-of-Custody Record	Turn-Around Time:	INTERNATION MENTAL
Client: Navior (Northor)	Standard Mash 48 h	ANALYSTS I ABORATORY
)	www.hallenvironmental.com
Mailing Address:	Hackberry 6 Fed 1	4901 Hawkins NE - Albuquerque, NM 87109
1	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:	22 E - 02537	Analysis Request
email or Fax#:	Project Manager:	*OS
QA/QC Package:	Chance Dixon	PO4, S
ı: 🗆 Az Cor	Sampler: SpC	280 (Γ. (ΣΣΣ(
	,	8/26 504 10 0 2 3, 1
□ EDD (Type)	worty	oide oide oide oide oide oide oide oide
	Cooler Temp(including cF): 0.50>0.3 (°C)	15E estic by 8 W 8 B M 3F,
Time Natrix Same	Container Preservative HEAL No.	2TEXY 8081 PP 8081 PP EDB (M 8APAS 13, FL 15, FL 15
17:8:4	901	
8233-		
	-003	
8:50 BS23-79 4'	h00-	
	300-	
	700-	
	7007	
1	-008	
19:04 BS 23-84 4'	7009	
9:05 BS23-85 U'	010-	
	/10-	
86	10- 1	
Relinquished t	Received by: Via: Date Time	Remarks: (D.11 D.11 C. L.10 100 101 201
1993 16:24 Jan 11/16 Cath	Juny 1/20/23	DIECH BILL YAVOOL: NO 100 /101201
Date: Time: Relinquished by:	Received by: Via: Date Time	CC Sally Parttar
Control of Case	100181 2013 1013	

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

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

Released to Imaging: 10/5/2023 9:14:51 AM



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

OrderNo.: 2301870

January 30, 2023

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

FAX

RE: Hackberry 6 Fed 1 Well Pad

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 15 sample(s) on 1/24/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-100 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:36:00 AM

 Lab ID:
 2301870-001
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	1/26/2023 10:41:23 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/26/2023 10:41:23 AM
Surr: DNOP	75.9	69-147	%Rec	1	1/26/2023 10:41:23 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/26/2023 8:42:00 AM
Surr: BFB	96.1	37.7-212	%Rec	1	1/26/2023 8:42:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/26/2023 8:42:00 AM
Toluene	ND	0.049	mg/Kg	1	1/26/2023 8:42:00 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/26/2023 8:42:00 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/26/2023 8:42:00 AM
Surr: 4-Bromofluorobenzene	94.5	70-130	%Rec	1	1/26/2023 8:42:00 AM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2800	150	mg/Kg	50	1/26/2023 12:30:35 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

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 1 of 19

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-101 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:37:00 AM

 Lab ID:
 2301870-002
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	ANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	1/26/2023 11:09:35 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/26/2023 11:09:35 AM
Surr: DNOP	118	69-147	%Rec	1	1/26/2023 11:09:35 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/26/2023 12:02:00 PM
Surr: BFB	105	37.7-212	%Rec	1	1/26/2023 12:02:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/26/2023 12:02:00 PM
Toluene	ND	0.050	mg/Kg	1	1/26/2023 12:02:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/26/2023 12:02:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/26/2023 12:02:00 PM
Surr: 4-Bromofluorobenzene	99.8	70-130	%Rec	1	1/26/2023 12:02:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	1700	60	mg/Kg	20	1/25/2023 4:46:18 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 19

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-102 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:42:00 AM

 Lab ID:
 2301870-003
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	SANICS				Analyst: SB
Diesel Range Organics (DRO)	20	8.7	mg/Kg	1	1/26/2023 11:23:22 AM
Motor Oil Range Organics (MRO)	ND	44	mg/Kg	1	1/26/2023 11:23:22 AM
Surr: DNOP	129	69-147	%Rec	1	1/26/2023 11:23:22 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/26/2023 12:21:00 PM
Surr: BFB	96.4	37.7-212	%Rec	1	1/26/2023 12:21:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/26/2023 12:21:00 PM
Toluene	ND	0.050	mg/Kg	1	1/26/2023 12:21:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/26/2023 12:21:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/26/2023 12:21:00 PM
Surr: 4-Bromofluorobenzene	98.2	70-130	%Rec	1	1/26/2023 12:21:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	2000	60	mg/Kg	20	1/25/2023 4:59:10 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 3 of 19

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-103 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:42:00 AM

 Lab ID:
 2301870-004
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGA	Analyst: SB				
Diesel Range Organics (DRO)	39	9.7	mg/Kg	1	1/26/2023 12:05:35 PM
Motor Oil Range Organics (MRO)	64	48	mg/Kg	1	1/26/2023 12:05:35 PM
Surr: DNOP	114	69-147	%Rec	1	1/26/2023 12:05:35 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/26/2023 12:41:00 PM
Surr: BFB	102	37.7-212	%Rec	1	1/26/2023 12:41:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/26/2023 12:41:00 PM
Toluene	ND	0.050	mg/Kg	1	1/26/2023 12:41:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/26/2023 12:41:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/26/2023 12:41:00 PM
Surr: 4-Bromofluorobenzene	98.7	70-130	%Rec	1	1/26/2023 12:41:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	1800	60	mg/Kg	20	1/25/2023 5:12:02 PM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 4 of 19

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-104 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:47:00 AM

 Lab ID:
 2301870-005
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	43	9.5	mg/Kg	1	1/26/2023 9:37:39 AM
Motor Oil Range Organics (MRO)	63	47	mg/Kg	1	1/26/2023 9:37:39 AM
Surr: DNOP	118	69-147	%Rec	1	1/26/2023 9:37:39 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/26/2023 1:00:00 PM
Surr: BFB	97.5	37.7-212	%Rec	1	1/26/2023 1:00:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/26/2023 1:00:00 PM
Toluene	ND	0.048	mg/Kg	1	1/26/2023 1:00:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/26/2023 1:00:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/26/2023 1:00:00 PM
Surr: 4-Bromofluorobenzene	99.5	70-130	%Rec	1	1/26/2023 1:00:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	2300	60	mg/Kg	20	1/25/2023 5:24:54 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-105 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:46:00 AM

 Lab ID:
 2301870-006
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	100	9.5	mg/Kg	1	1/26/2023 10:24:52 AM
Motor Oil Range Organics (MRO)	180	47	mg/Kg	1	1/26/2023 10:24:52 AM
Surr: DNOP	130	69-147	%Rec	1	1/26/2023 10:24:52 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/26/2023 1:20:00 PM
Surr: BFB	99.5	37.7-212	%Rec	1	1/26/2023 1:20:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/26/2023 1:20:00 PM
Toluene	ND	0.048	mg/Kg	1	1/26/2023 1:20:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/26/2023 1:20:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	1/26/2023 1:20:00 PM
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	1/26/2023 1:20:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2300	150	mg/Kg	50	1/26/2023 12:42:57 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

ple pH Not In Range Page 6 of 19

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-106 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:51:00 AM

 Lab ID:
 2301870-007
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: SB
Diesel Range Organics (DRO)	76	9.1	mg/Kg	1	1/26/2023 11:12:15 AM
Motor Oil Range Organics (MRO)	130	46	mg/Kg	1	1/26/2023 11:12:15 AM
Surr: DNOP	130	69-147	%Rec	1	1/26/2023 11:12:15 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/26/2023 1:40:00 PM
Surr: BFB	96.4	37.7-212	%Rec	1	1/26/2023 1:40:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/26/2023 1:40:00 PM
Toluene	ND	0.050	mg/Kg	1	1/26/2023 1:40:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/26/2023 1:40:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/26/2023 1:40:00 PM
Surr: 4-Bromofluorobenzene	96.4	70-130	%Rec	1	1/26/2023 1:40:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2200	150	mg/Kg	50	1/26/2023 12:55:18 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 7 of 19

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-107 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:51:00 AM

 Lab ID:
 2301870-008
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	40	9.3	mg/Kg	1	1/26/2023 11:59:30 AM
Motor Oil Range Organics (MRO)	62	46	mg/Kg	1	1/26/2023 11:59:30 AM
Surr: DNOP	126	69-147	%Rec	1	1/26/2023 11:59:30 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/26/2023 1:59:00 PM
Surr: BFB	98.7	37.7-212	%Rec	1	1/26/2023 1:59:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/26/2023 1:59:00 PM
Toluene	ND	0.049	mg/Kg	1	1/26/2023 1:59:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/26/2023 1:59:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/26/2023 1:59:00 PM
Surr: 4-Bromofluorobenzene	98.8	70-130	%Rec	1	1/26/2023 1:59:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2300	150	mg/Kg	50	1/26/2023 1:07:40 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

popular Not In Range Page 8 of 19

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-108 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:55:00 AM

 Lab ID:
 2301870-009
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	Analyst: SB				
Diesel Range Organics (DRO)	38	9.3	mg/Kg	1	1/26/2023 12:19:44 PM
Motor Oil Range Organics (MRO)	63	47	mg/Kg	1	1/26/2023 12:19:44 PM
Surr: DNOP	95.2	69-147	%Rec	1	1/26/2023 12:19:44 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/26/2023 2:19:00 PM
Surr: BFB	98.0	37.7-212	%Rec	1	1/26/2023 2:19:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/26/2023 2:19:00 PM
Toluene	ND	0.048	mg/Kg	1	1/26/2023 2:19:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/26/2023 2:19:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/26/2023 2:19:00 PM
Surr: 4-Bromofluorobenzene	98.2	70-130	%Rec	1	1/26/2023 2:19:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	2200	60	mg/Kg	20	1/25/2023 6:16:21 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

pH Not In Range
ng Limit Page 9 of 19

Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-109 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:55:00 AM

 Lab ID:
 2301870-010
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	25	9.9	mg/Kg	1	1/26/2023 12:34:06 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/26/2023 12:34:06 PM
Surr: DNOP	104	69-147	%Rec	1	1/26/2023 12:34:06 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/26/2023 2:38:00 PM
Surr: BFB	98.2	37.7-212	%Rec	1	1/26/2023 2:38:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/26/2023 2:38:00 PM
Toluene	ND	0.049	mg/Kg	1	1/26/2023 2:38:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/26/2023 2:38:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/26/2023 2:38:00 PM
Surr: 4-Bromofluorobenzene	98.3	70-130	%Rec	1	1/26/2023 2:38:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	2900	150	mg/Kg	50	1/26/2023 1:20:01 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

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

QL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-110 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:58:00 AM

 Lab ID:
 2301870-011
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	ND	9.0	mg/Kg	1	1/26/2023 12:48:23 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/26/2023 12:48:23 PM
Surr: DNOP	93.0	69-147	%Rec	1	1/26/2023 12:48:23 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/26/2023 3:17:00 PM
Surr: BFB	96.6	37.7-212	%Rec	1	1/26/2023 3:17:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/26/2023 3:17:00 PM
Toluene	ND	0.049	mg/Kg	1	1/26/2023 3:17:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/26/2023 3:17:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	1/26/2023 3:17:00 PM
Surr: 4-Bromofluorobenzene	99.6	70-130	%Rec	1	1/26/2023 3:17:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	1600	60	mg/Kg	20	1/25/2023 7:07:49 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

 $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: BS23-111 4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 8:58:00 AM

 Lab ID:
 2301870-012
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	21	9.2	mg/Kg	1	1/26/2023 1:02:43 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/26/2023 1:02:43 PM
Surr: DNOP	118	69-147	%Rec	1	1/26/2023 1:02:43 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/26/2023 3:37:00 PM
Surr: BFB	98.2	37.7-212	%Rec	1	1/26/2023 3:37:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/26/2023 3:37:00 PM
Toluene	ND	0.049	mg/Kg	1	1/26/2023 3:37:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	1/26/2023 3:37:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/26/2023 3:37:00 PM
Surr: 4-Bromofluorobenzene	97.6	70-130	%Rec	1	1/26/2023 3:37:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	960	60	mg/Kg	20	1/25/2023 7:20:40 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: WS23-43 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 11:31:00 AM

 Lab ID:
 2301870-013
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	Analyst: SB				
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	1/26/2023 1:16:56 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/26/2023 1:16:56 PM
Surr: DNOP	120	69-147	%Rec	1	1/26/2023 1:16:56 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/26/2023 3:57:00 PM
Surr: BFB	102	37.7-212	%Rec	1	1/26/2023 3:57:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	1/26/2023 3:57:00 PM
Toluene	ND	0.048	mg/Kg	1	1/26/2023 3:57:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	1/26/2023 3:57:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	1/26/2023 3:57:00 PM
Surr: 4-Bromofluorobenzene	102	70-130	%Rec	1	1/26/2023 3:57:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	1/25/2023 7:33:32 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
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: WS23-44 0-4'

 Project:
 Hackberry 6 Fed 1 Well Pad
 Collection Date: 1/20/2023 11:39:00 AM

 Lab ID:
 2301870-014
 Matrix: SOIL
 Received Date: 1/24/2023 1:40:00 PM

Result **RL Qual Units** DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: SB Diesel Range Organics (DRO) ND 9.6 mg/Kg 1 1/26/2023 12:24:15 PM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 1/26/2023 12:24:15 PM 69-147 Surr: DNOP 119 %Rec 1 1/26/2023 12:24:15 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 1/26/2023 4:17:00 PM 5.0 mg/Kg 1 Surr: BFB 96.7 37.7-212 %Rec 1 1/26/2023 4:17:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 0.025 mg/Kg 1/26/2023 4:17:00 PM 1 Toluene ND 0.050 mg/Kg 1 1/26/2023 4:17:00 PM Ethylbenzene ND 0.050 mg/Kg 1 1/26/2023 4:17:00 PM Xylenes, Total ND 0.099 mg/Kg 1 1/26/2023 4:17:00 PM Surr: 4-Bromofluorobenzene 99.0 70-130 %Rec 1 1/26/2023 4:17:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/25/2023 7:46:23 PM ma/Ka 20

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 1/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: WS23-45 0-4'

Project: Hackberry 6 Fed 1 Well Pad **Collection Date:** 1/20/2023 12:42:00 PM 2301870-015 Lab ID: Matrix: SOIL Received Date: 1/24/2023 1:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	Analyst: SB				
Diesel Range Organics (DRO)	ND	8.8	mg/Kg	1	1/26/2023 12:48:04 PM
Motor Oil Range Organics (MRO)	ND	44	mg/Kg	1	1/26/2023 12:48:04 PM
Surr: DNOP	135	69-147	%Rec	1	1/26/2023 12:48:04 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/26/2023 4:36:00 PM
Surr: BFB	97.0	37.7-212	%Rec	1	1/26/2023 4:36:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	1/26/2023 4:36:00 PM
Toluene	ND	0.050	mg/Kg	1	1/26/2023 4:36:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/26/2023 4:36:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	1/26/2023 4:36:00 PM
Surr: 4-Bromofluorobenzene	96.5	70-130	%Rec	1	1/26/2023 4:36:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	1/25/2023 7:59:15 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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value Е
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301870**

oratory, Inc. 30-Jan-23

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: MB-72815 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 72815 RunNo: 94198

Prep Date: 1/25/2023 Analysis Date: 1/25/2023 SeqNo: 3401847 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-72815 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: **LCSS** Batch ID: **72815** RunNo: **94198**

Prep Date: 1/25/2023 Analysis Date: 1/25/2023 SeqNo: 3401848 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.0 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

2301870 30-Jan-23

WO#:

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: MB-72814 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 72814 RunNo: 94191

Prep Date: 1/25/2023 Analysis Date: 1/26/2023 SeqNo: 3401999 Units: mg/Kg

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

Diesel Range Organics (DRO) ND 10
Motor Oil Range Organics (MRO) ND 50

Surr: DNOP 9.8 10.00 97.6 69 147

Sample ID: LCS-72814 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS Batch ID: 72814 RunNo: 94191

Prep Date: 1/25/2023 Analysis Date: 1/26/2023 SeqNo: 3402000 Units: mg/Kg

Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 10 61.9 130 59 50.00 118

Surr: DNOP 4.7 5.000 94.0 69 147

Sample ID: 2301870-001AMS SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: BS23-100 4' Batch ID: 72814 RunNo: 94195

Prep Date: 1/25/2023 Analysis Date: 1/26/2023 SeqNo: 3402860 Units: mg/Kg

Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 45 9.499 54.2 45.41 78.2 135

Surr: DNOP 4.3 4.541 94.3 69 147

Sample ID: 2301870-001AMSD SampType: MSD TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: BS23-100 4' Batch ID: 72814 RunNo: 94195

Prep Date: 1/25/2023 Analysis Date: 1/26/2023 SeqNo: 3402863 Units: mg/Kg

LowLimit %RPD Result PQL SPK value SPK Ref Val %REC HighLimit **RPDLimit** Qual Analyte Diesel Range Organics (DRO) 53 9.6 47.94 9.499 90.5 54.2 135 16.1 29.2 Surr: DNOP 4.8 4.794 99.2 69 147 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

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.

WO#: **2301870** 30-Jan-23

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: Ics-72799 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 72799 RunNo: 94183

Prep Date: 1/24/2023 Analysis Date: 1/26/2023 SeqNo: 3401214 Units: mg/Kg

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

 Gasoline Range Organics (GRO)
 27
 5.0
 25.00
 0
 106
 72.3
 137

 Surr: BFB
 1000
 1000
 104
 37.7
 212

Sample ID: mb-72799 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 72799 RunNo: 94183

Prep Date: 1/24/2023 Analysis Date: 1/26/2023 SeqNo: 3401215 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 920 1000 91.7 37.7 212

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 Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- 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.

WO#: **2301870**

30-Jan-23

Client: Devon Energy

Project: Hackberry 6 Fed 1 Well Pad

Sample ID: Ics-72799	SampT	ype: LC	S	Test	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch	n ID: 72 7	799	R	RunNo: 9	4183				
Prep Date: 1/24/2023	Analysis D	ate: 1/2	26/2023	S	SeqNo: 3	401309	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.2	80	120			
Toluene	0.96	0.050	1.000	0	95.8	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.1	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		94.6	70	130			

Sample ID: mb-72799	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batch	1D: 72	799	F	RunNo: 9	4183				
Prep Date: 1/24/2023	Analysis D	ate: 1/	26/2023	S	SeqNo: 3	401310	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: 4-Bromofluorobenzene	0.95		1.000		94.7	70	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 10/5/2023 9:14:51 AM

Client Name:	Devon Ene	rgy	Work	Order Numb	er: 230	1870		Rcptl	No: 1
Received By:	Joseph A	derette	1/24/20	23 2:40:00 F	M		H		
Completed By		ominguez	1/24/20	23 2:02:53 F	м		TA		
Reviewed By:		24/23					113		
<u>Chain of Cเ</u>	<u>ustody</u>								
1. Is Chain of	Custody comp	lete?			Yes		No 🗹	Not Present]
2. How was th	he sample deliv	ered?			Cou	rier			
Log In		=	0		V	✓	No 🗌	na 🗀	1
o. vvas an atti	empt made to o	ooi the sampi	es?		Yes		NO L	NA L	J
4. Were all sa	mples received	at a temperat	ure of >0° C	to 6.0°C	Yes	V	No 🗌	NA []
5. Sample(s)	in proper conta	iner(s)?			Yes	V	No 🗌		
6. Sufficient sa	ample volume f	or indicated te	st(s)?		Yes	V	No 🗌		
7. Are sample	s (except VOA	and ONG) pro	perly preserve	ed?	Yes	V	No 🗌		
8. Was preser	rvative added to	bottles?			Yes		No 🗹	NA 🗆	
9. Received at	t least 1 vial wit	h headspace	<1/4" for AQ \	/OA?	Yes		No 🗌	NA 🗹	
0. Were any s	sample containe	ers received b	oken?		Yes		No 🗹	# of preserved	1
	work match bot				Yes	V	No 🗌	bottles checked for pH:	or >12 unless note
•	s correctly iden	• ,			Yes	V	No 🗌	Adjusted?	/
	hat analyses we						No 🗌		
4. Were all ho	lding times able	to be met?			Yes	V	No 🗌	Checked by:	JI 1-24-2
•	customer for a	•							O
	notified of all d		vith this order	?	Yes		No 🗌	NA 🗹]
Perso	on Notified:			Date:					
By W	/hom:		-	Via:	" □ eMa	ail 🗆	Phone Fax	In Person	
1	arding:			-					
	it Instructions:								
16. Additional	remarks:								
COC	missing client	info (on file) -	DAD 1/24/23						
17. <u>Cooler Inf</u>	_	(=)							
Cooler I		Condition	Seal Intact	Seal No	Seal D	ate	Signed By	Ĭ	
1	0.2	Good	Not Present	Yogi					
2	1.6	Good	Not Present	Yogi					

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hain-of-Custody Record	urn-Around Ime:	HALL ENVIRONMENTAL
Client: Devon (Vertex)	□ Standard 18 HW	ANALYSIS LABORATORY
	Project Name:	www.hallenvironmental.com
Mailing Address: Oハ 午)。	Hackberry 6 Fed 1 well not	4901 Hawkins NE - Albuquerque, NM 87109
	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:	22 E - 02537	Analysis Request
email or Fax#:	Project Manager:	*OS
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□ EDD (Type)	# of Coolers: 2 o.4 -0.2 o.2 (°C)	sticid eticid ethod 7 831 Mets Mets (AC
	Container Preservative HEAL No.	HS D) F, B; PA 8 F, B; F, B; F, Co (Se) (Ve)
Date Time Matrix Sample Name	#	191 808 PA9 RC RC 828 828
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18:47 / 18523-104 4'	S00~	
BS23- 105	7006	
&:51 B323-106 4'	+00-	
19 101-8223 / 12:8	- 008	
8:55 BSJ3-108 4'	600 -	
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8:58 BS23-110 4'	110-	
90	1 -012	
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120/23/15:24 /2000/11/c/cd	MAMMAN 1813 913	Direct Bill Devon Page 1/2
	Received by: Via: Date Time	
MEN MEMBERS		ce sally cartar

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

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	Project Name:						ww.	www.hallenvironmental.com	ironn	ental	СОШ			
Mailing Address: 0N HILL	Hackberry		le Fed I Well Pad	•	4901 Hawkins NE	lawkii	s NE	ı	enbn	rque,	Albuquerque, NM 87109	60		
	Project #:	Ò			Tel. 505-345-3975	05-34	5-397	The same	-ax	05-3	Fax 505-345-4107	"State godes"		
Phone #:	11E-025	72537						Anal	/sis F	Analysis Request	st			
email or Fax#:	Project Manager:	er:						[⊅] OS			/nus	i		
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<u>~</u>	Received by:	Via:	Date Time	<u>8</u>	•	00	10	100710130			7	1/		
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If necessary, samples submitted to Hall Environmental may be su Released to Imaging: 10/5/2023 9:14:51 AM

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Limitations

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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 judgment 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.

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

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

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

CONDITIONS

Action 215660

CONDITIONS

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	215660
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2116940090 HELIOS 6 FED COM 1H & 3H BATTERY, thank you. This closure is approved.	10/5/2023