Volume calculator

There was no volume calculator prepared when the spill occurred.



June 9, 2023

Vertex Project #: 21E-02816-27

Spill Closure Report:	Tomcat 17 Federal #001	
	Unit P, Section 17, Township 23 South, Range 32 East	
	API: 30-025-34690	
	County: Lea	
	Incident Reports: nSAP0219636264, nKJ1524345298 (1RP-3833)	
Prepared For:	Devon Energy Production Company	
	6488 Seven Rivers Highway	
	Artesia, New Mexico 88210	

**New Mexico Oil Conservation Division - District 1 - Hobbs** 1625 North French Drive Hobbs, New Mexico 88240

Devon Energy Production Company (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment for two releases of produced oil that occurred at Tomcat 17 Federal #001, API 30-025-34690 (hereafter referred to as "Tomcat"). Incidents nSAP0219636264 and nKJ1524345298 were caused by a perforated fill line and corrosion in the bottom of a tank, respectively. Devon provided immediate notification to the Bureau of Land Management (BLM) and the New Mexico Oil Conservation Division (NMOCD) District 1, via submission of initial C-141 Release Notifications. This letter provides a description of the Spill Assessment and includes a request for Spill Closure. The release area is located at N 32.298882, W -103.690711.

### Background

The site is located approximately 3.22 miles north of the intersection of Highway 128 and Red Road, and 2.93 miles east of Red Road (Google Inc., 2023). The legal location for the site is Unit P, Section 17, Township 23 South and Range 32 East in Lea County, New Mexico. The release area is located on BLM property. An aerial photograph and site schematic are presented on Figure 1 (Attachment 1).

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 Qep - Eolian and piedmont deposits (Holocene to middle Pleistocene) Interlayed eolian sands and piedmont-slope deposits. The Natural Resources Conservation Service *Web Soil Survey* characterizes the predominant soil textures on the site as Maljamar and palomas fine sands or Pyote and Maljamar fine sands. It tends to be well drained with very low to low runoff and low to moderate available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2022). There is low potential for karst geology to be present near Tomcat, though some erosional karst is possible (United States Department of the Interior, Bureau of Land Management, 2018).

The surrounding landscape is associated with uplands, plains, dunes, fan piedmonts and in inter dunal areas. The parent material consists of mixed alluvium and or eolian sands derived from sedimentary rock. Slopes range on this site range vertex.ca

Devon Energy Production Company, LP Tomcat 17 Federal #001

from 0 to 3% with variable direction. Elevations range from 3,000 to 3,900 feet above sea level. The climate is semi-arid, with an annual precipitation ranging between 10 to 15 inches. Historically, the plant community was dominated by grasses, which stabilized the potentially erosive sandy soils; however, more recent conditions, resulting from fire suppression and extensive grazing, show increased woody plant abundance. The dominant grass species are dropseeds and bluestem interspersed with mesquite. Short grasses are a significant proportion of ground cover while shrubs, litter and, to a lesser extent, bare ground compose the remainder (United States Department of Agriculture, Natural Resources Conservation Service, 2022). Limited to no vegetation is allowed to grow on the compacted facility pad.

There is no surface water located at Tomcat. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 Mexico Administrative Code (NMAC; New Mexico Oil Conservation Division, 2018), is the intermittent stream located approximately 4.45 miles west-northwest of Tomcat (United States Fish and Wildlife Service, 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**

### nSAP0219636264

The release occurred on July 15, 2002, due to a perforated fill line. The spill was reported on March 22, 2022, and involved the release of approximately 110 barrels (bbl) of produced oil into the unlined containment surrounding the tanks on the west side of the pad. Approximately 34 bbl free fluid was recovered during initial spill clean-up. The release was contained within the bermed, earthen containment on the facility pad. No oil was released into undisturbed areas or waterways. The NMOCD initial C-141 Report for incident nSAP0219636264 is included in Attachment 2. A new initial C-141 for nSAP0219636264 was created because the original is missing. The characterization schematic is presented in Figure 1 (Attachment 1). The daily field reports (DFRs) with site photographs are included in Attachment 3.

### nKJ1524345298, 1RP-3833

The release occurred on August 26, 2015, due to the development of a hole in the bottom of an oil tank from internal corrosion. The spill was reported on August 26, 2015, and involved the release of approximately 90 bbl of produced oil into the unlined containment. Approximately 10 bbl of free fluid was recovered during initial spill clean-up. The release was contained within the bermed, earthen containment on the facility pad. No oil was released into undisturbed areas or waterways. The NMOCD C-141 Report for incident nKJ1524345298 and corresponding administrative work order 1RP-3833 is included in Attachment 2. The DFRs and site photographs are included in Attachment 3.

### **Closure Criteria Determination**

The depth to groundwater was determined using information from Oil and Gas Drilling records and the New Mexico Office of the State Engineer Water Column/Average Depth to Water report. The closest recorded depth to groundwater was determined to be 713 feet below ground surface (bgs) and 5,689 feet from the site (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2023). The available depth to groundwater reference exceeded the 0.5 mile radius limit, and a closer confirmation reference was required.

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Vision Resources, Inc. (Vision) obtained a permit from New Mexico Office of the State Engineer approving collection of lithological data for a test borehole for depth to groundwater on the east side of the pad at Tomcat, 200 feet east of the excavation. On March 7, 2023, Vision drilled a well to 63 feet bgs without contacting water. The sand surrounding much of the wellbore collapsed into the well before the casing could be installed. Another well was drilled 10 feet west of the first to attempt to satisfy depth to groundwater requirements. The second well was advanced to 43 feet bgs when the sand in the wellbore began collapsing. The two attempts made to drill the borehole failed due to the instability of the soils beneath the site, and additional boreholes were not recommended due to concerns of instability and possible collapse. The well information and location are included with documentation used in Closure Criteria Determination research in Attachment 4.

Using site characterization information, a closure criteria determination worksheet was completed in accordance with the scenario outlined in Paragraph (5) of Subsection A of 19.15.29.11 NMAC for a release onto an open pad area. Due to the sale of Tomcat and other sites to Harvard Petroleum Company, all unresolved releases associated with divested properties will be remediated sufficiently as to meet reclamation criteria. The closure criteria will also adhere to Paragraph (1) of Subsection D of 19.15.29.13 NMAC for reclamation from surface to 4 feet bgs. The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 1.

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Tomcat 17 Federal #001

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	Criteria Worksheet			
	ne: Tomcat 17 Federal #001 rdinates:	X: 32.2990761	V: 102 6002	
•	cific Conditions	Value	Y: -103.6903 Unit	
1	Depth to Groundwater	>51	feet	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	23,531	feet	
Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)		28,997	feet	
4	Within 300 feet from an occupied residence, school, hospital, institution or church	38,311	feet	
5	<ul> <li>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</li> </ul>		feet	
	ii) Within 1000 feet of any fresh water well or spring	5,689	feet	
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		29,695	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	No	year	
11 Soil Type Fine s		Fine sand, f	ine sandy loam	
12 Ecological Classification Loamy Sand		ny Sand		
13	Geology	Eolian and piedmont deposits		
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'	

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**Devon Energy Production Company, LP** 

Tomcat 17 Federal #001

	Constituent	Limit
0.4 fact has (10.15.20.12)	Chloride	600 mg/kg
0-4 feet bgs (19.15.29.13)	TPH (GRO+DRO+MRO)	100 mg/kg
	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
DTGW 51-100 feet (19.15.29.12)	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 Taken**

Initial site inspection and release characterization activities at Tomcat were initiated by Vertex on May 18, 2020. Characterization was finalized on January 17, 2023, when horizontal and vertical delineation of the release was completed. The remaining areas of impact within the containment were a portion immediately north of the northwest tank and an area around the tanks within the south half of the containment. The northern impact area was determined to be approximately 20 feet long and 14 feet wide, covering an area of 78 square feet. The southern impact area was approximately 61 feet long and 29 feet wide, covering an area of 528 square feet. The DFRs associated with the site visits are included in Attachment 3. Characterization sample locations and approximate impacted areas are presented on Figure 1 (Attachment 1). Characterization field screening and laboratory results are summarized in Table 2 (Attachment 5).

Remediation efforts began on July 16, 2020, when Micro-Blaze, a hydrocarbon bioremediation agent, was applied to the impacted area. Sampling conducted well after the 40-day treatment period still exceeded NMOCD reclamation criteria. Excavation began on December 6, 2022, and was completed on January 7, 2023. Vertex personnel supervised the excavation of impacted soils with hand tools. Field screening results were used to identify areas requiring further remediation from those areas showing concentrations below determined closure criteria levels. Field screening was completed using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and an Electroconductivity meter (chloride). Field screening results and daily field reports are presented in Attachment 3.

On January 7, 2023, excavation was completed with approximately 465 total yards having been removed for disposal. Soils were removed to a depth of 2 feet bgs east of the tanks, and 4 feet bgs west and north of the tanks. The total surface area of the excavation walls was approximately 1,810 square feet, and the total surface area of the excavation base was approximately 2,600 square feet. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility.

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Notification that confirmatory samples were being collected was provided to the NMOCD on December 8 and 20, 2022, and January 3, 2023, and are included in Attachment 6. Confirmatory samples were collected from the base and walls of the excavation as five-point composites. Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NMOCD approval. A total of 15 excavation base samples, and 21 excavation wall samples, were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Laboratory Analysis under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chloride (EPA Method 300.0). Laboratory results are presented in Table 3 (Attachment 5) and laboratory data reports are included in Attachment 7. All confirmatory samples collected and analyzed were below closure criteria for the site.

### **Closure Request**

Vertex recommends no additional remedial actions to address the release at Tomcat 17 Federal #001. Soils impacted by the release have tested below the criteria and in accordance with Paragraph (4) of Subsection C of 19.15.29.12 NMAC and Paragraph (1) of Subsection D of 19.15.29.13 NMAC as shown in the laboratory analysis in Attachment 7. Laboratory analyses of the confirmatory samples from surface to 4 feet bgs showed constituent of concern concentration levels below NMOCD closure criteria for areas where depth to groundwater is less than 50 feet bgs as shown in Table 1. Laboratory analyses of the confirmatory samples collected 4 feet bgs and below showed constituent of concern concentration levels below NMOCD closure criteria for areas where depth to groundwater is below showed constituent of concern concentration levels below NMOCD closure criteria for areas where depth to groundwater is below showed constituent of concern concentration levels below NMOCD closure criteria for areas where depth to groundwater is between 51 and 100 feet bgs as shown in Table 1. The excavation was backfilled with non-waste-containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent ponding of water and erosion. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that these incidents (nSAP0219636264 and nKJ1524345298) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Devon certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the historical releases at Tomcat.

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Devon Energy Production Company, LP Tomcat 17 Federal #001

Should you have any questions or concerns, please do not hesitate to contact Kent Stallings at 346.814.1413 or kstallings@vertex.ca.

Lakin Pullman

ENVIRONMENTAL SPECIALIST, REPORTING

Lakin Pullman, B.Sc.

<u>June 9, 2023</u> Date

Kent Stallings P.G.

Kent Stallings, P.G.

June 12, 2023

Date

PROJECT MANAGER, REPORT REVIEW

### **Attachments**

- Attachment 1. Figures
- Attachment 2. NMOCD C-141 Reports
- Attachment 3. Daily Field Reports with Photographs
- Attachment 4. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
- Attachment 5. Tables
- Attachment 6. Confirmatory Sampling Notification to the NMOCD
- Attachment 7. Laboratory Data Reports and Chain of Custody Forms

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### References

- Google Inc. (2023). *Google Earth Pro* (Version 7.3.4) [Software]. Retrieved from http://www.google.com/earth on January 8, 2023.
- New Mexico Bureau of Geology and Mineral Resources. (2022). *Interactive Geologic Map.* Retrieved from http://geoinfo.nmt.edu.
- New Mexico Oil Conservation Division. (2018). New Mexico Administrative Code Natural Resources and Wildlife Oil and Gas Releases. Santa Fe, New Mexico.
- New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2023). *Water Column/Average* Depth to Water Report. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html
- United States Department of Agriculture, Natural Resources Conservation Service. (2022). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.
- United States Department of the Interior, Bureau of Land Management. (2018). *New Mexico Cave/Karst*. Retrieved from https://www.nm.blm.gov/shapeFiles/cfo/carlsbad\_spatial\_data.html
- United States Fish and Wildlife Service. (2023). *National Wetland Inventory Surface Waters and Wetlands*. Retrieved from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

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Devon Energy Production Company, LP Tomcat 17 Federal #001

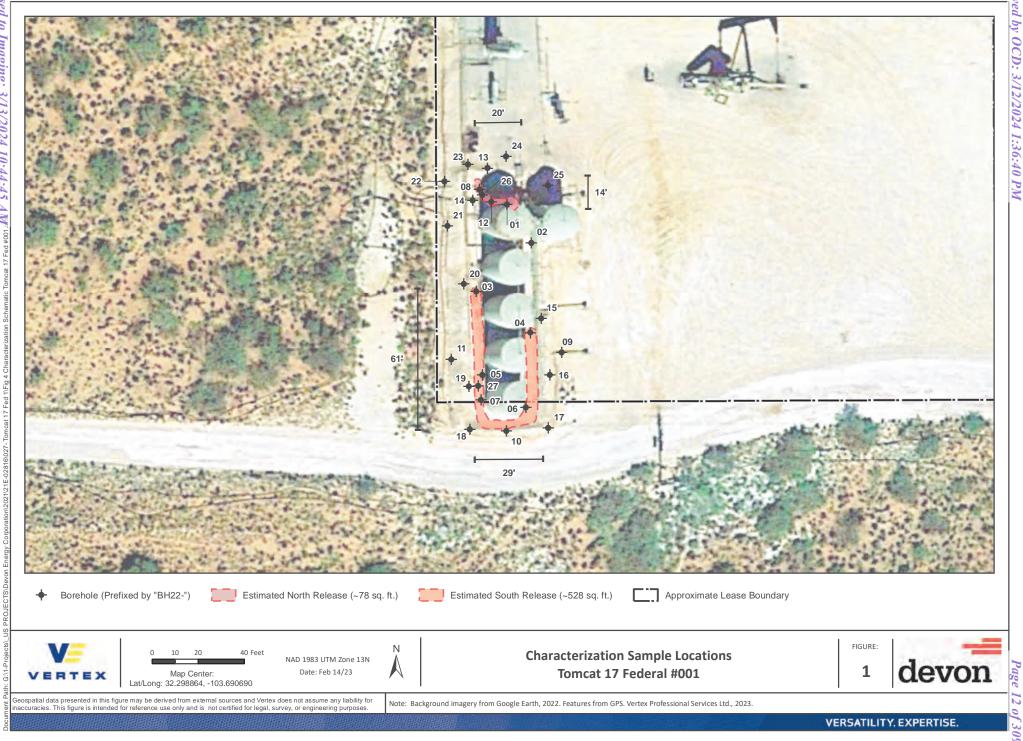
### Limitations

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

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

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### **ATTACHMENT 1**



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by OCD:

3/12/2024

1:36:40 PM

### **ATTACHMENT 2**

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Page 15 of 309

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

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Incident ID	nSAP0219636264
District RP	
Facility ID	
Application ID	

# **Release Notification**

### **Responsible Party**

Responsible Party Harvard Petroleum Company, LLC	OGRID 10155	
Contact Name Jeff Harvard	Contact Telephone 575-208-7135	
Contact email jharvard@hpcnm.com	Incident # nSAP0219636264	
Contact mailing address P.O. Box 936 Roswell, NM 88202		

### **Location of Release Source**

Latitude 32.298865\_

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Tomcat 17 Federal #001	Site Type Oil Well and Tank Battery
Date Release Discovered 07/15/2002	API# <b>30-025-34690</b>

Unit Letter	Section	Township	Range	County
Р	17	238	32E	Lea

Surface Owner: State Federal Tribal Private (Name:

### Nature and Volume of Release

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

Crude Oil	Volume Released (bbls) 110	Volume Recovered (bbls) 34
Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
a		

Cause of Release

Release is historical and on file with NMOCD but original C-141 is not on file (possibly never uploaded). Fill likely line leaked, possibly due to perforation. Notation on NMOCD incident web page is as follows: "FILL LINE WAS REPLACED. SPILL INSIDE TANK BATTERY DIKE. SAMPLES TAKEN & BEING REMEDIATED."

Dage	^
гage	4

### Oil Conservation Division

Incident ID	nSAP0219636264
District RP	
Facility ID	
Application ID	

Was this a major	If YES, for what reason(s) does the responsible party consider this a major release?	
release as defined by	Volume released (110 bbl) exceeds 25 bbl.	
19.15.29.7(A) NMAC?		
🛛 Yes 🗌 No		
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?		
Release is historical and on file with NMOCD but original C-141 is not on file. Timeline of notice and parties informed are		
unknown.	- · ·	
Release is historical and		

### **Initial Response**

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

 $\square$  The source of the release has been stopped.

The impacted area has been secured to protect human health and the environment.

Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name:Jeff Harvard	Title:President and Manager
Signature:	Date:
email: <u>jharvard@hpcnm.com</u>	Telephone:575-208-7135
OCD Only	
Received by:	Date:

State of New Mexico **Energy Minerals and Natural Resources** 

Form C-141 Revised August 8, 2011

**Oil Conservation Division** 1220 South St. Francis Dr. Santa Eo. NM 87505

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

						e, INIM 875						
	<b>Release Notification and Corrective Action</b>											
			OPERATOR			🖂 Initia	al Report		Final Report			
				Contact Dan Suniga								
					No. 575.390.585	50						
		at 17 Federa				Facility Typ						
Surface Ow	vner Fede	ral		Mineral	Owner	Federal			API No	<b>b.</b> 30-025-3	34690	
						N OF REI	FASE					
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	Fast/V	Vest Line	County		
P	17	23S	32E	660		FSL	660		FEL	LEA		
			La	titude: <u>32.29</u>	9008	Long	tude: <u>106.689</u>	833				
				NAT	URE	OF RELI	EASE					
Type of Rele	ase Spill	Oil		1 11 1		Volume of			Volume	Recovered		
51	<b>F</b>					90 BBL			10 BBL			
Source of Re	elease Hole	at the bottom	n of oil tar	ık			Hour of Occurren	nce	Date and 8/26/15 1	Hour of Di	scover	у
Was Immedi	iate Notice	Given?				8/26/15 11 If YES, To			8/20/15 1	1:00 am		
vvus mineu			Yes	No 🗌 Not Re	quired	Jim Amos						
						OCD office						
By Whom? I	Ray Carter	•				Date and I	- • • •					
						8/26/15 11:15 am BLM 8/26/15 11:20 am OCD						
Was a Water	rcourse Re	ached?					lume Impacting	the Wa	tercourse			
			Yes 🛛	No			DECEN					
If a Waterco	urse was I	mpacted, Des	cribe Full	y.*			RECEIV	ED				
					By OCD Dis	strict	1 at 12:	30 pm, /	Aug 3	31, 2015		
Describe Cause of Problem and Remedial Action Taken.*												
	On 8/26/15 at the Tomcat 17 Fed 1 an oil tank had a hole at the bottom of tank causing a spill all in containment. The well was shut in and a vendor was called out to empty all oil tanks into frac tanks.											
	vender was called out to empty all on talks into nac talks.											
D 11 4	A 66 ( 1		A (* 17									
		and Cleanup 0 BBL recov			in unlin	ed containm	ent. An environ	mental (	omnany v	vill be called	l out to	) evaluate
area.	i spin and i		ci cu on a	00 71100 area	in unin	cu containin		incintar	ompany (	viii be caned	a out t	, cvaruate
I harabu aarti	fy that the i	nformation ai	van abova	is true and some	lata to th	a bast of my	knowledge and u	ndorstor	d that pure	mont to NM		los and
							nd perform correct					
public health	or the envir	ronment. The	acceptanc	e of a C-141 repo	rt by the	e NMOCD m	arked as "Final Re	eport" d	oes not rel	ieve the oper	ator of	liability
							on that pose a three					
				tance of a C-141	report de	bes not reliev	e the operator of r	responsi	bility for c	ompliance w	1th any	other
federal, state, or local laws and/or regulations.				OIL CONSERVATION DIVISION								
Signature: Jeanette Barron				OIL CONSERVATION DIVISION								
									VA			
Printed Name: Jeanette Barron				Approved by	Environmental Sp	pecialist	: he ye	40				
Title: Field A	dmin Supp	port				Approval Dat	e: <mark>08/31/2015</mark>	I	Expiration	Date: 10/3	1/2015	
E					T.	Q 1:4: (	· A					
E-mail Addre	ess: Jeanett	e.barron@dv	n.com			Conditions of Approval: Attached 6137			6137			
Date:					remediate as per MNOCD guides. Geotag 1RP-3833							
				photographs of remediation required.								

nKJ1524345298 pKJ1524348116

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Received by OCD: 3/12/2024 1:36:40 PM Form C-141 State of New Mexico

Page 3

Oil Conservation Division

	Page 18 of 309
Incident ID	nSAP0219636264,
	nKJ1524345298
District RP	1RP-3833
Facility ID	30-025-34690
Application ID	

# Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;51</u> (ft bgs)
Did this release impact groundwater or surface water?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🛛 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🔀 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🛛 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🔀 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🗌 Yes 🛛 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🛛 No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	🗌 Yes 🖂 No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- $\boxtimes$  Depth to water determination
- Determination of water sources and significant watercourses within <sup>1</sup>/<sub>2</sub>-mile of the lateral extents of the release
- $\boxtimes$  Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- $\boxtimes$  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.

<i>Received by OCD: 3/12/2024</i> Form C-141	1:36:40 PM State of New Mexico		La sident ID	Page 19 of 309
Page 4	Oil Conservation Division	n	Incident ID	nSAP0219636264, nKJ1524345298
			District RP	1RP-3833
			Facility ID	30-025-34690
			Application ID	
regulations all operators are rec public health or the environmen failed to adequately investigate addition, OCD acceptance of a and/or regulations. Printed Name:Jeff Ha Signature:	ation given above is true and complete to t quired to report and/or file certain release n nt. The acceptance of a C-141 report by th and remediate contamination that pose a t C-141 report does not relieve the operator arvard	notifications and perform co ne OCD does not relieve the hreat to groundwater, surfact of responsibility for compli- Title: <u>President a</u>	rrective actions for rele operator of liability sho ce water, human health iance with any other feo nd Manager	ases which may endanger ould their operations have or the environment. In deral, state, or local laws
OCD Only Bassived but		Data		
		Date:		

Page 6

Oil Conservation Division

Incident ID	nSAP0219636264,
	nKJ1524345298
District RP	1RP-3833
Facility ID	30-025-34690
Application ID	

Page 20 of 309

# Closure

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

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

A scaled site and sampling diagram as described in 19.15.29.11 NMAC

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

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

Description of remediation activities

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

Printed Name:Jeff Harvard	Title:President and Manager
Signature:	Date:
email:jharvard@hpcnm.com	Telephone: <u>575-208-7135</u>
OCD Only	
<u>OCD Olity</u>	
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:

### **ATTACHMENT 3**



Client:	Devon Energy Corporation	Inspection Date:	7/16/2020	
Site Location Name:	Tomcat 17 Federal 001	Report Run Date:	7/17/2020 4:18 PM	
Client Contact Name:	Amanda Davis	API #:	30-025-34690	
Client Contact Phone #:	(575) 748-0176			
Unique Project ID	-Tomcat 17 Federal 001	Project Owner:	Tom Bynum	
Project Reference #	Spill 1RP-3833	Project Manager:	Natalie Gordon	
		Summary of	Times	
Arrived at Site	7/16/2020 10:00 AM			
Departed Site	7/16/2020 5:03 PM			

**Field Notes** 

**10:28** Bioremediation of oil release conducted by Wildwest Services. Micro blaze will be applied to impacted area around tanks at a depth of 2-3 feet below surface.

### **Next Steps & Recommendations**

**1** Continue to water containment area to reactivate microblaze.

2 Schedule confirmatory sampling after microblaze sits for approximately 40 days.



**Site Photos** Viewing Direction: West Viewing Direction: South Impacted Area prior to remediation Area flooded with microblaze Viewing Direction: North Viewing Direction: North Area flooded with microblaze Area flooded with microblaze



Viewing Direction: West	Viewing Direction: South		
	Description virtuals 2000		
Treated area	Impacted Area prior to remediation		
Viewing Direction: East	Viewing Direction: South		
Stranger of the strategy of the Jacobia Alexandrate Strategy of the Strategy of the Jacobia Strategy of the St			
Impacted Area prior to remediation	Impacted Area prior to remediation		

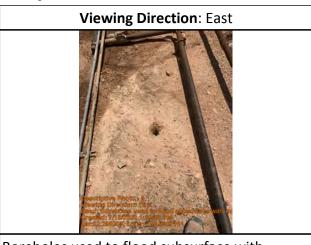
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Viewing Direction: North	Viewing Direction: South
Baschiptiva Stole Lite Beschiptiva Stole Lite Desci Baseded Aree prior texemittee Desci Baseded Aree prior texemittee Desci Baseded Aree prior texemittee	Productive Photo - 8 Melling-Minection: Scotto Melling-Minection: Melling-Minection: Mell
Impacted Area prior to remediation	Impacted Area prior to remediation
Viewing Direction: North	Viewing Direction: South
Proving Structure and an advance of a variable and	Descriptions (Figure 16) These insurance (Figure 16) These
Impacted Area prior to remediation	Remediation in progress

•





Boreholes used to flood subsurface with microblaze

.



**Daily Site Visit Signature** 

Inspector: Kevin Smith

Signature:

Ven DM

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# VERTEX

# **Daily Site Visit Report**

Client:	Devon Energy Corporation	Inspection Date:	5/15/2022
Site Location Name:	Tomcat 17 Federal 001	Report Run Date:	5/15/2022 11:40 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34690
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	
		Summary of	Times
Arrived at Site	5/15/2022 6:45 AM		
Departed Site	5/15/2022 4:13 PM		

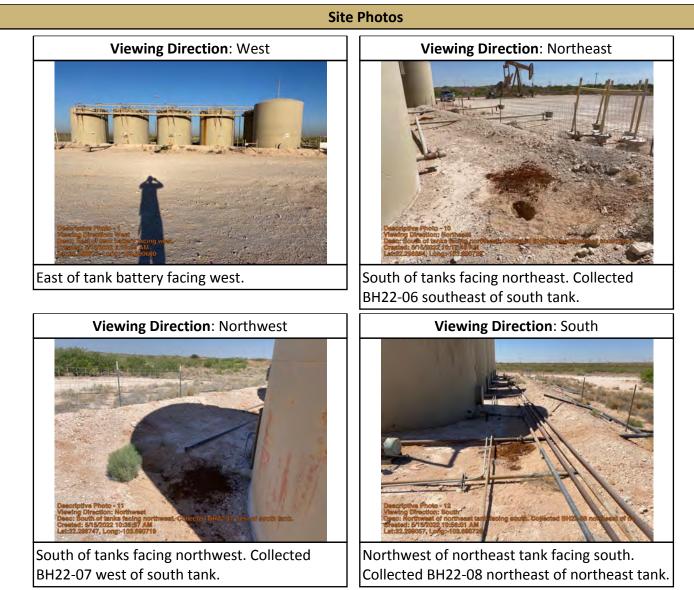
### **Field Notes**

- **6:57** Completed safety paperwork at office. Objective for the day is to collect soil samples from 8 boreholes around tank battery and assess current remediation needs.
- **12:42** Collected 0, 2, and 4 foot bgs samples at 8 boreholes around containment area and packaged all samples for laboratory analysis of chloride, TPH, and BTEX concentrations.
- **16:10** Hydrocarbon odor from general area. Field screened all samples, 10x dilution for PetroFlag to save time.
- **16:11** Created current polygon of containment berm in Arc Collector.

### **Next Steps & Recommendations**

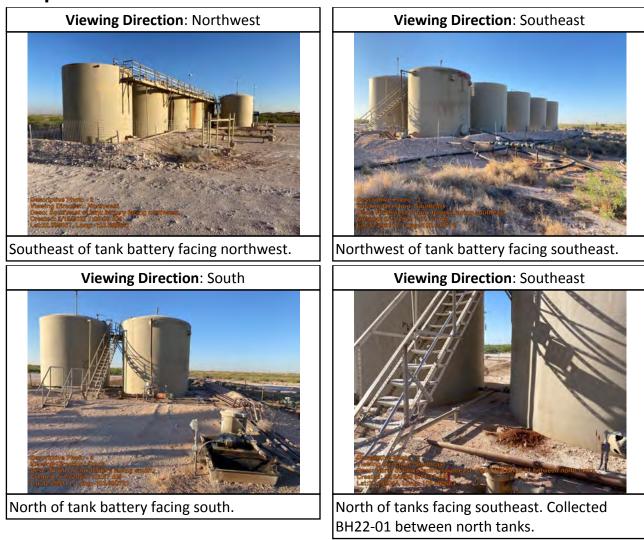
1 Check laboratory results.





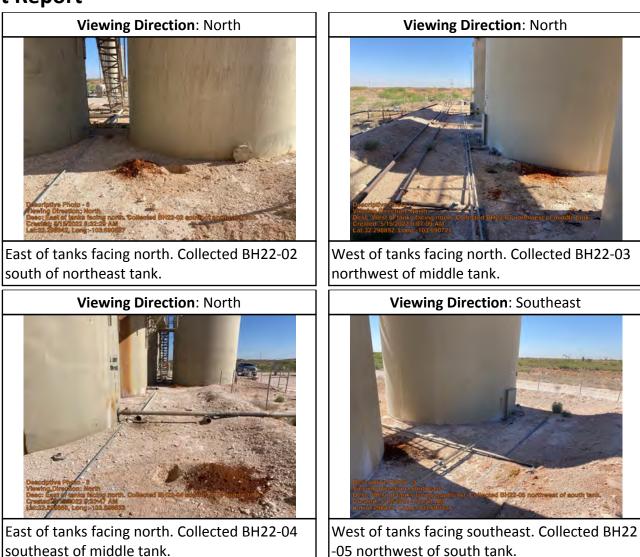


Page 30 of 309



Run on 5/15/2022 11:40 PM UTC







### **Daily Site Visit Signature**

Inspector: Lakin Pullman Signature:

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Client:	Devon Energy Corporation	Inspection Date:	1/7/2023
Site Location Name:	Tomcat 17 Federal 001	Report Run Date:	1/7/2023 7:43 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34690
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	
		Summary of	Times
Arrived at Site	1/7/2023 6:50 AM		
Departed Site	1/7/2023 9:02 AM		

### **Field Notes**

- **6:55** Completed JSA on arrival and conducted safety meeting with co-worker. On site to complete confirmation sampling and view final excavation.
- 7:07 Swept sampling surface areas with magnetic locator prior to ground disturbance.
- **8:37** Collected remaining excavation wall confirmation samples WS22-17, WS22-18, WS22-19, WS22-20, and WS22-21. Samples were 5-point composites.
- 8:38 Collected remaining excavation base samples BH22-14 and BH22-15. Samples were 5-point composites.
- 8:39 Excavation was completed and fence reinstalled to limit access to tank battery area and open excavation.
- 9:01 Excavation ready for backfill once laboratory results are confirmed to be below NMOCD requirements.

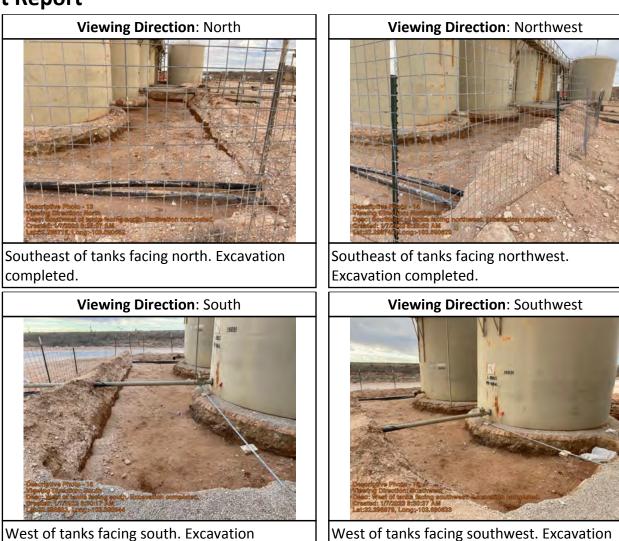
### Next Steps & Recommendations

1 Submit confirmation samples for laboratory analyses.



# **Site Photos** Viewing Direction: West Viewing Direction: East HARMARD TOMCAT 17 FED 1 30-025-34690 NMM97891 SL: SEC.17-1233-R32E 660'FSL & 660'FEL BL: SEC.17-1233-R32E 660'FSL & 660'FEL LEA COUNTY, NEW MEXICO LAT. N32' IT 56.67396'L0KG, W103' 47 25.08' DE HARYARD PETROLEUM CO. LLC 3377 East of tanks facing west. Southwest of tanks facing east. Excavation completed. Viewing Direction: Northeast Viewing Direction: West Southwest of tanks facing northeast. Southeast of tanks facing west. Excavation Excavation completed. completed.

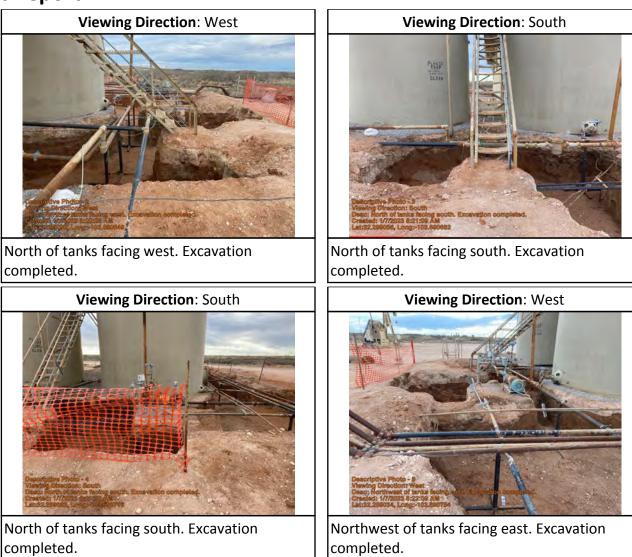




completed.

completed.









Northwest of tanks facing south. Excavation completed.

#### Viewing Direction: Southeast



West of tanks facing southeast. Excavation completed.



West of tanks facing northeast. Excavation completed.

#### Viewing Direction: North



Southwest of tanks facing north. Excavation completed.



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

Inspector: Lakin Pullman Signature:

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Client:	Devon Energy Corporation	Inspection Date:	1/16/2023			
Site Location Name:	Tomcat 17 Federal 001	Report Run Date:	1/17/2023 1:32 AM			
Client Contact Name:	Wes Matthews	API #:	30-025-34690			
Client Contact Phone #:	(575) 748-0176					
Unique Project ID		Project Owner:				
Project Reference #		Project Manager:				
Summary of Times						
Arrived at Site	1/16/2023 8:40 AM					
Departed Site	1/16/2023 4:44 PM					

#### **Field Notes**

9:04 Completed JSA on arrival. On site to collect additional delineation samples.

**16:36** Swept sampling areas with magnetic locator prior to ground disturbance. Surrounding infrastructure created significant interference.

**16:40** Advanced BH22-26 northeast of tanks, and BH22-27 west of tanks to 8 feet bgs for vertical delineation.

**16:41** Collected discrete samples from excavation walls for further horizontal delineation.

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

**1** Continue horizontal delineation.



# Site Photos Viewing Direction: West Viewing Direction: South OK Viewing Direction: South OK Viewing Direction: South Viewing Direction: South Northwest of tanks facing south. Advanced BH22-26 at north end of excavation for vertical delineation.





samples from west edge of excavation.

Run on 1/17/2023 1:32 AM UTC

discrete samples from east edge of excavation.



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

Inspector: Lakin Pullman Signature:

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Client:	Devon Energy Corporation	Inspection Date:	1/17/2023			
Site Location Name:	Tomcat 17 Federal 001	Report Run Date:	1/18/2023 1:40 AM			
Client Contact Name:	Wes Matthews	API #:	30-025-34690			
Client Contact Phone #:	(575) 748-0176	_				
Unique Project ID		Project Owner:				
Project Reference #		Project Manager:				
Summary of Times						
Arrived at Site	1/17/2023 7:10 AM					
Departed Site	1/17/2023 4:50 PM					

#### Field Notes

7:47 Completed JSA on arrival. On site to continue additional horizontal delineation.

**7:54** Swept sampling locations with magnetic locator prior to ground disturbance.

**11:06** Collected discrete samples from west, north, and northeast points of excavation to refine horizontal delineation.

**15:36** Completed horizontal and vertical delineation pending laboratory results.

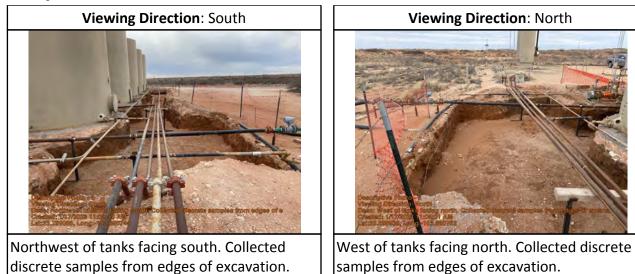
#### Next Steps & Recommendations

**1** Complete and submit remediation plan and corresponding closure report pending laboratory results.



# **Site Photos** Viewing Direction: West Viewing Direction: West HARMARD TOMCAT 17 FED 1 -34690 NMNM9789 32E 660' FSL & 660' FEL R32E 660' FSL & 660' FEL OUNTY, NEW MEXICO 56.67396" LONG. W 103" 41" 25.08" D PETROLEUM CO. LL-3377 North of tanks facing west. Collected discrete East of tanks facing west. samples from edges of excavation. Viewing Direction: South Viewing Direction: Southeast CLEAN North of tanks facing south. Collected discrete Northwest of tanks facing southeast. Collected samples from edges of excavation. discrete samples from edges of excavation.







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

Inspector: Lakin Pullman

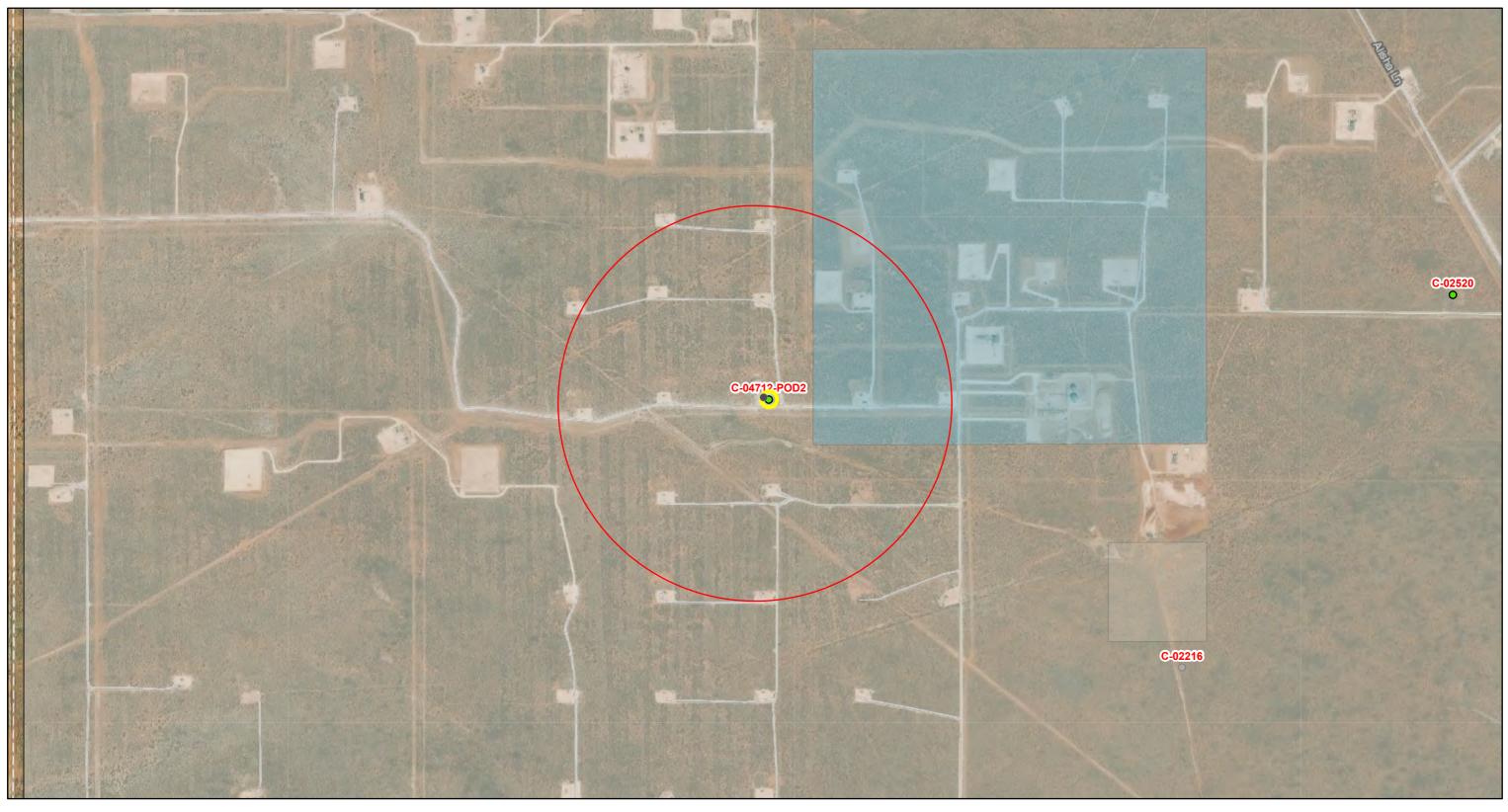
Signature:

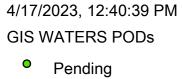
Signature

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## **ATTACHMENT 4**

# OSE POD 0.5 mile

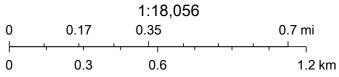








Both Estates SiteBoundaries



Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar

# OSE POD 0.5 mile



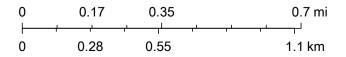
## 6/8/2023, 4:39:44 PM

GIS WATERS PODs OSE District Boundary New Mexico State Trust Lands

- Active Water Right Regulations
- Pending
   Closure Area

Subsurface Estate

Both Estates SiteBoundaries 1:18,056



Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar



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

		(quarters are 1=NW 2= (quarters are smallest		(NAD83 UTM in meters)	
Well Tag	POD Number	Q64 Q16 Q4 See	e Tws Rng	X Y	
NA	C 04712 POD2	4 4 4 17	238 32E	623332 3574331	<b>)</b>
x Driller Lic	ense: 1833	Driller Company:	VISION RE	ESOURCES, INC	
Driller Nai	me: JASON MALEY				
Drill Start	Date: 03/09/2023	Drill Finish Date:	03/09/202	23 Plug Date:	03/14/2023
Log File Da	ate: 04/04/2023	PCW Rcv Date:		Source:	
Pump Type	e:	Pipe Discharge Size		<b>Estimated Yiel</b>	d:
Casing Size	e:	Depth Well:	55 feet	<b>Depth Water:</b>	

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.

4/16/23 2:46 PM

POINT OF DIVERSION SUMMARY



# 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	(R=POD replaced, O=orpha C=the fil	ned,	I	(	(qua	irtei	rs are	= 1=NV	V 2=NE	3=SW 4=S	Е)				
water right file.)	closed)	0 15		(	(qua	rte	rs are	small	est to la	rgest) (N	NAD83 UTM in n	neters)	(In t	feet)	
		POD													
	~ .	Sub-		-	Q	-		-							Vater
POD Number	Code		County						-	X	Y	DistanceDe		thWater Co	olumn
<u>C 04712 POD2</u>		CUB	LE	4	4	4	17	238	32E	623332	3574331 🌍	24	55		
<u>C 03851 POD1</u>		CUB	LE	3	3	4	20	23S	32E	622880	3572660 🌍	1734	1392	713	679
<u>C 02216</u>		CUB	LE	2	2	4	21	235	32E	625035	3573261* 🌍	2035	585	400	185
<u>C 03529 POD1</u>		С	LE	2	4	3	29	23S	32E	622651	3571212 🌍	3195	550		
<u>C 04712 POD3</u>		CUB	ED	4	1	2	24	23S	31E	619651	3573877 🌍	3687	55		
<u>C 02349</u>		CUB	ED		2	3	03	23S	32E	625678	3578004* 🤤	4363	525		
<u>C 04712 POD1</u>		CUB	LE	1	4	1	31	23S	32E	620917	3570289 🥥	4704	55		
											Avera	ge Depth to Wat	er:	556 fee	et
												Minimum De	epth:	400 fee	et
												Maximum De	pth:	713 fee	et
<b><u>Record Count:</u></b> 7															
UTMNAD83 Radius	<u>s Search (in</u>	<u>meters)</u>	<u>:</u>												
<b>Easting (X):</b> 623	3309		North	ning	; (Y	):	3574	340			<b>Radius:</b> 5000				
*UTM location was derived															
The data is furnished by the N accuracy, completeness, reliab										lerstanding th	hat the OSE/ISC ma	ake no warranties,	expressed or ir	nplied, concern	ning the

4/17/23 12:43 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

# New Mexico Office of the State Engineer Water Right Summary

<b>Z</b>	WR File Number:	C 04712	Subbasin: CUB	<b>Cross Reference:</b>	-
	<b>Primary Purpose:</b>	MON MONITORING	WELL		
<u>get image list</u>	<b>Primary Status:</b>	PMT PERMIT			
	<b>Total Acres:</b>		Subfile: -		Header: -
	<b>Total Diversion:</b>	0	Cause/Case: -		
	<b>Owner:</b>	VERTEX RESOURCES			
	User:	HARVARD PETROLEU	M COMPANY LLC		
	<b>Contact:</b>	JUSTIN WARREN			

**Documents on File** 

				Sta	atus	From/				
	Trn #	Doc	File/Act	1	2	Transaction Desc.	То	Acres	Diversion	Consumptive
images	<u>743189</u>	EXPL	2023-02-21	PMT	APR	C 04712 POD1-6	Т	0	0	

**Current Points of Diversion** 

		Q						(NAD83 UTM	in meters)	
<b>POD Number</b> <u>C 04712 POD1</u>	Well Tag Source NA	-		-			Rng 32E	<b>X</b> 620917	Y 3570289	Other Location Desc SDE
<u>C 04712 POD2</u>	NA	4	4	4	17	23S	32E	623332	3574331 🌍	TOMCAT17
<u>C 04712 POD3</u>	NA	4	1	2	24	23S	31E	619651	3573877 🌍	TODD24
<u>C 04712 POD4</u>	NA	1	4	3	14	23S	31E	617535	3574316 🥑	TODD14
<u>C 04712 POD5</u>	NA	4	4	3	09	23S	31E	614393	3575754 🌍	NPG9
<u>C 04712 POD6</u>	NA	3	3	4	08	23S	31E	613147	3575740 🧲	NPG8

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.

4/17/23 12:50 PM

WATER RIGHT SUMMARY

Received 4by QGD: 3/12/2024 1:36:40 PMus/ReportDispatcher?type=TRANSHTML&name=TransactionSummaryHTML.jrxml&basin=C&nbr=B4#6253 cf. 309

# New Mexico Office of the State Engineer Transaction Summary

		EXPL Permit To Explor	e	
Transaction Number:	743189	Transaction Desc: C 04712	2 POD1-6 File I	Date: 12/14/2022
Primary Status: Secondary Status: Person Assigned: Applicant: User: Contact:	****** VERTEX R	proved ESOURCES PETROLEUM COMPANY LLO	C	
x Events				
$\underbrace{\text{Date}}_{\text{images}} 12/14/202$	<b>Type</b> 22 APP	<b>Description</b> Application Received	Comment *	Processed By *****
$\bigotimes_{images} \frac{get}{images} 02/07/202$	23 TEC	Technical Report	*PLG PLN OPS C	*****
02/21/202	23 FTN	Finalize non-published Trans.		*****
03/09/202	23 QAT	Quality Assurance Completed	DATA	****
03/14/202	23 QAT	Quality Assurance Completed	IMAGE	****
04/04/202	23 LOG	Well Log Received	*C-4712-POD1 DRY	*****
04/04/202	23 DRY	Dry well log received	C-4712 POD1 DRY	*****
04/04/202	23 LOG	Well Log Received	*C-4712-POD2 DRY	****
04/04/202	23 DRY	Dry well log received	C-4712-POD2 DRY	*****
04/04/202	23 LOG	Well Log Received	*C-4712-POD3 DRY	****
04/04/202	23 DRY	Dry well log received	C-4712-POD3 DRY	*****
04/04/202	23 LOG	Well Log Received	*C-4712-POD4 DRY	*****
04/04/202	23 DRY	Dry well log received	C-4712-POD4 DRY	*****
04/04/202	23 LOG	Well Log Received	*C-4712-POD5 DRY	****
04/04/202	23 DRY	Dry well log received	C-4712-POD5 DRY	*****
04/04/202	23 LOG	Well Log Received	*C-4712-POD6 DRY	****
04/04/202	23 DRY	Dry well log received	C-4712-POD6 DRY	*****

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04/04/2023	LGI	Well Log Image	*PLG RECORD C-	*****
04/04/2023	LGI	Well Log Image	*PLG RECORD C-	*****
04/04/2023	LGI	Well Log Image	*PLG RECORD C-	*****
04/04/2023	LGI	Well Log Image	*PLG RECORD C-	*****
04/04/2023	LGI	Well Log Image	*PLG RECORD C-	*****
04/04/2023	LGI	Well Log Image	*PLG RECORD C-	*****
05/24/2023	QAT	Quality Assurance Completed	DATA WR C-4712	*****
05/24/2023	QAT	Quality Assurance Completed	DATA PLG RECORD	*****
06/08/2023	QAT	Quality Assurance Completed	DATA LOG POD1	*****
06/08/2023	QAT	Quality Assurance Completed	DATA LOG POD2	*****
06/08/2023	QAT	Quality Assurance Completed	DATA LOG POD3	*****
06/08/2023	QAT	Quality Assurance Completed	DATA LOG POD4	*****
06/08/2023	QAT	Quality Assurance Completed	DATA LOG POD5	*****
06/08/2023	QAT	Quality Assurance Completed	DATA LOG POD6	*****

Water Right Information			
WR File Nbr	Acres	Diversion	Consumptive Purpose of Use
C 04712	0	0	MON MONITORING WELL
<b>**Point of Diversion</b>			
C 04712 POD2		623332	3574331 🌍
C 04712 POD1		620917	3570289 🔵
C 04712 POD3		619651	3573877 🌍
C 04712 POD6		613090	3576220 🥌
C 04712 POD4		617535	3574316 🌍
C 04712 POD5		614393	3575754 🌍
			_

#### Conditions

- 1A Depth of the well shall not exceed the thickness of the valley fill.
- 4 No water shall be appropriated and beneficially used under this permit.
- B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

Received by QCD: 3/12/2024, 1:36:40, PM us/ReportDispatcher?type=TRANSHTML&name=TransactionSummaryHTML.irxml&basin=C&nbr=04862.55.0f. 309

- C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record. The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.
- 6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable
- 7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.
- 16 Construction of a water well by anyone without a valid New Mexico Well Driller License is illegal, and the landowner shall bear the cost of plugging the well by a licensed New Mexico well driller. This does not apply to driven wells, the casing of which does not exceed two and three-eighths inches outside diameter.
- P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.
- Q The State Engineer retains jurisdiction over this permit.
- R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

#### Action of the State Engineer

IT IS THE PERMITTEE'S RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

\*\* See Image For Any Additional Conditions of Approval \*\*

Approval Code:	A - Approved
Action Date:	02/21/2023
Log Due Date:	02/21/2024
State Engineer:	Mike A. Hamman, P.

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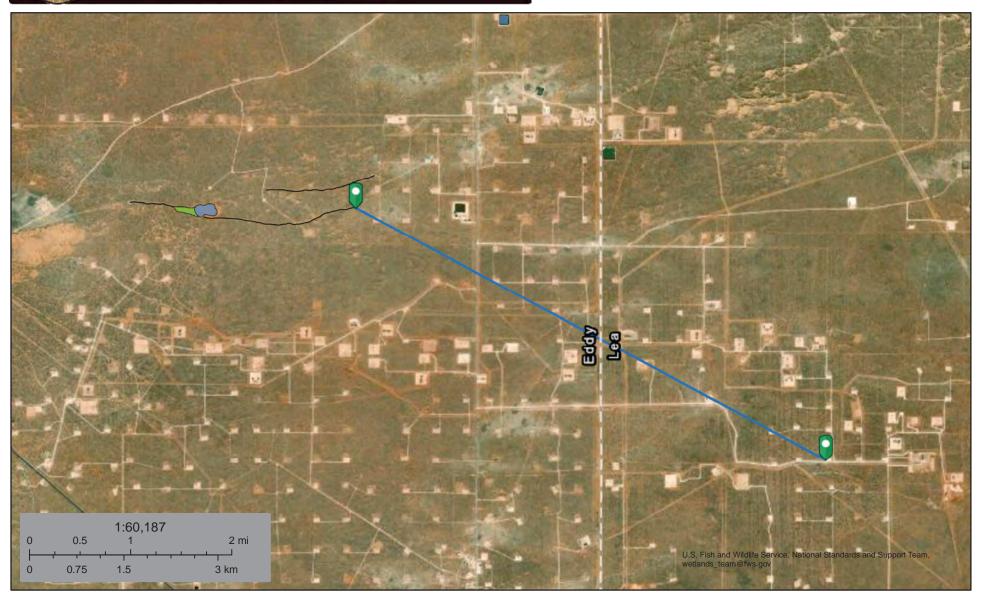
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TRANSACTION SUMMARY



## U.S. Fish and Wildlife Service National Wetlands Inventory

# Intermittent 23,531 feet



#### February 14, 2023

#### Wetlands



Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Forested/Shrub Wetland

Freshwater Emergent Wetland

Freshwater Pond

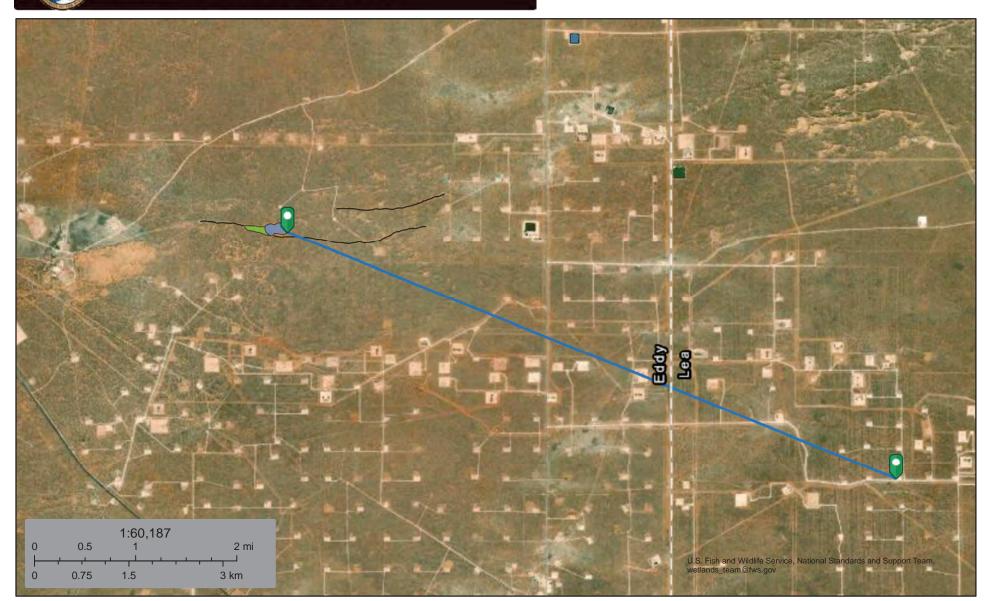
Lake Other Riverine This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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



## U.S. Fish and Wildlife Service National Wetlands Inventory

# Pond 28,997 feet



#### February 14, 2023

#### Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Wetland
- Freshwater Forested/Shrub Wetland

Freshwater Emergent Wetland

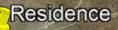
Freshwater Pond

Lake Other Riverine This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site. Received by OCD: 3/12/2024 1:36:40 PM



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Legend Page 58 of 309
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## New Mexico Office of the State Engineer



# Active & Inactive Points of Diversion

(with Ownership Information)

	(acre ft per	annum)		no	=POD has been replaced and longer serves this file, =the file is closed)	(quarters are 1=NW 2=NE 3 (quarters are smallest to larg	, at 1	D83 UTM in meters	)
<b>WR File Nbr</b> <u>C 04712</u>	Sub basin Use Dive CUB MON	ersion Owner 0 VERTEX RESOURCES	County         POD Number           LE <u>C 04712 POD2</u>	Well Tag ( NA	Code Grant	q q q         Source         6416 4         Sec         Tws           4 4 4         17         238		Y 3574331	Distance 24
<u>C 03851</u>	CUB MON	0 US DEPARTMENT OF ENERGY	LE <u>C 03851 POD1</u>			Artesian 3 3 4 20 23S	32E 622879	3572660	1734
<u>C 04703</u>	CUB MON	0 DEVON ENERGY PRODUCTION CO.	LE <u>C 04703 POD1</u>	NA		1 4 4 08 268	32E 623195	3576072	1736
<u>C 02216</u>	CUB PLS	11.3 BRININSTOOL XL RANCH LLC	LE <u>C 02216</u>			2 2 4 21 238	32E 625035	3573261*	2035
<u>C 02520</u>	C PRO	0 PENWELL ENERGY	LE <u>C 02520</u>			1 4 15 23S	32E 626122	3574791* 🌍	2848
<u>C 03529</u>	C STK	0 ANNETTE MCCLOY	LE <u>C 03529 POD1</u>			2 4 3 29 238	32E 622651	3571212	3195
<u>C 04704</u>	CUB MON	0 DEVON ENERGY	ED <u>C 04704 POD1</u>	NA		3 2 2 13 238	31E 619854	3575363	3603
<u>C 04712</u>	CUB MON	0 VERTEX RESOURCES	ED <u>C 04712 POD3</u>	NA		4 1 2 24 23S	31E 619650	3573877	3687
<u>C 02349</u>	CUB STK	3 CHARLES F. JAMES	ED <u>C 02349</u>			2 3 03 238	32E 625678	3578004*	4363
<u>C 04712</u>	CUB MON	0 VERTEX RESOURCES	LE <u>C 04712 POD1</u>	NA		1 4 1 31 238	32E 620917	3570289	4704
<u>Record Count:</u>	10								
UTMNA D83	Radius Search (in )	meters).							

UTMNAD83 Radius Search (in meters):

Easting (X): 623309 Northing (Y): 3574340

Radius: 5000

Sorted by: Distance

\*UTM location was derived from PLSS - see Help

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4/17/23 12:43 PM

ACTIVE & INACTIVE POINTS OF DIVERSION



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

			(quarte	rs are 1	=NW	2=N	E 3=SW	′ 4=SE)			
	(quar	(quarters are smallest to largest)						UTM in meters)			
Well Tag	POD	Number	Q64	Q64 Q16 Q4 Se			c Tws Rng		Х	Y	
	C 0.	3851 POD1	3	3	4	20	23S	32E	622880	3572660 🌍	
Driller Lic Driller Naı		1723	Driller	Comj	pany	:	SB0 CO		C DBA STH	EWART BROTH	ERS DRILLIN
Drill Start	Date:	08/19/2015	Drill F	inish I	Date	:	10	0/02/201	15 P	lug Date:	
Log File Date: 11/10/2015		PCW F	Rev Da	ate:				S	ource:	Artesian	
Pump Type:			Pipe D	Pipe Discharge Size: Depth Well:					E	stimated Yield:	3 GPM
Casing Size: 5.00		Depth	1392 feet					epth Water:	713 feet		
X	Wate	er Bearing Stratif	fications:		Тор	E	Bottom	Desci	ription		
					1354		1380	Limes	stone/Dolo	mite/Chalk	
x Casing Perforation			forations:		Тор	B	Bottom	l			
					1354		1383				

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POINT OF DIVERSION SUMMARY

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# New Mexico Office of the State Engineer Water Right Summary

Interstate Stream	Commission					<u> </u>					
<b>P</b>	WR File	Number	: C 03	851		Subbasin:	CUB	Cross Re	eference:	-	
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images	<u>564731 EX</u>	<u>CPL 201</u>	<u>5-07-09</u>	РМТ	LOG	C 03851 POD1		Т	0	0	
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<u>C 0385</u>	51 POD1		-	Artesian		4 20 23S 32E	622880	3572660 🧯	) H-10CI	R (C-2695)	

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.

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WATER RIGHT SUMMARY

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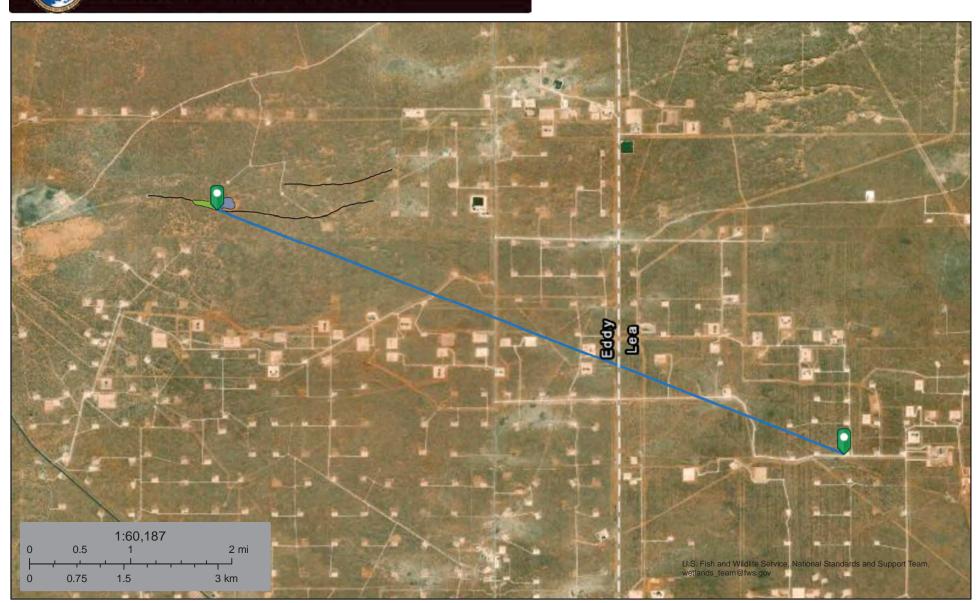
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## U.S. Fish and Wildlife Service **National Wetlands Inventory**

# Wetland 29,695 feet



#### February 14, 2023

#### Wetlands



Estuarine and Marine Deepwater

Estuarine and Marine Wetland

- Freshwater Forested/Shrub Wetland
  - Freshwater Pond

Freshwater Emergent Wetland

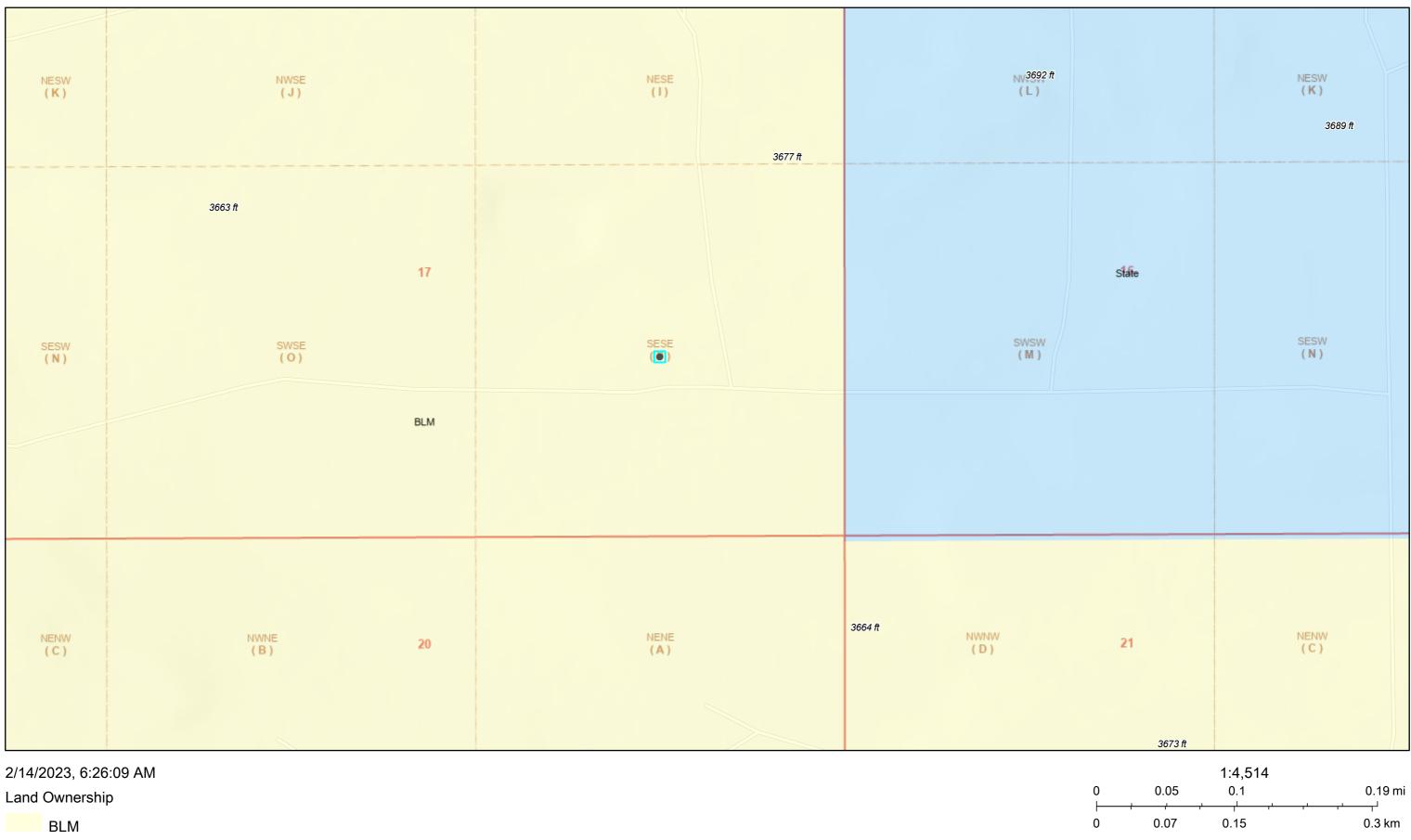
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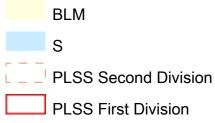
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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

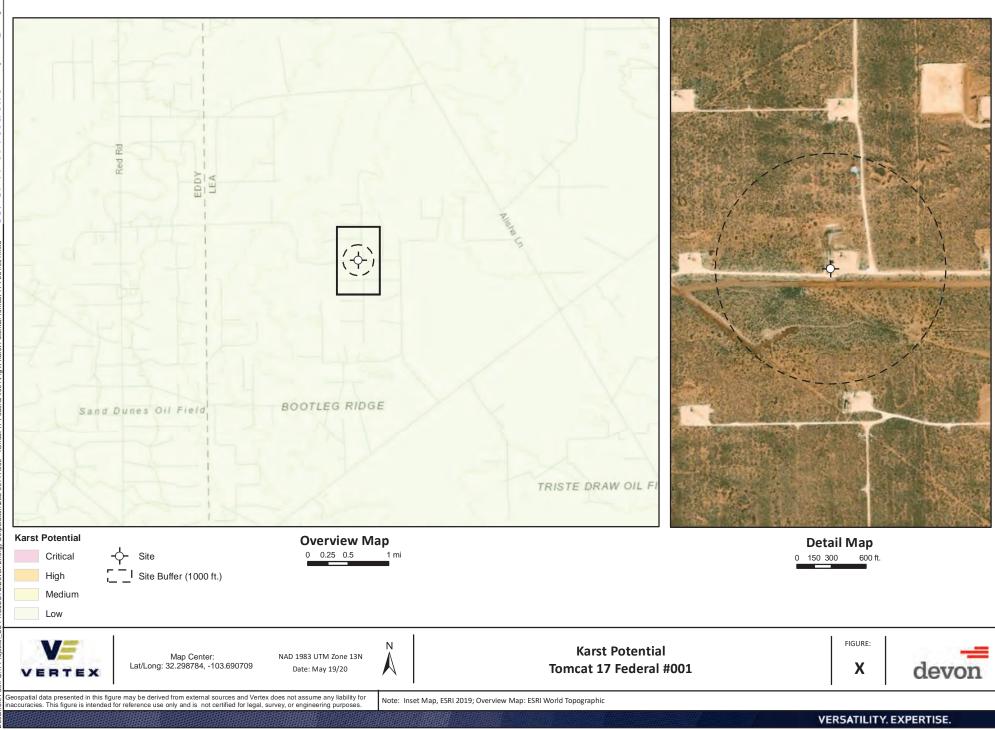
Page 63 of 309 Received by OCD: 3/12/2024 1:36:40 PM

# Active Mines in New Mexico





U.S. BLM, Esri Community Maps Contributors, New Mexico State University, Texas Parks & Wildlife, © OpenStreetMap, Microsoft, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA,



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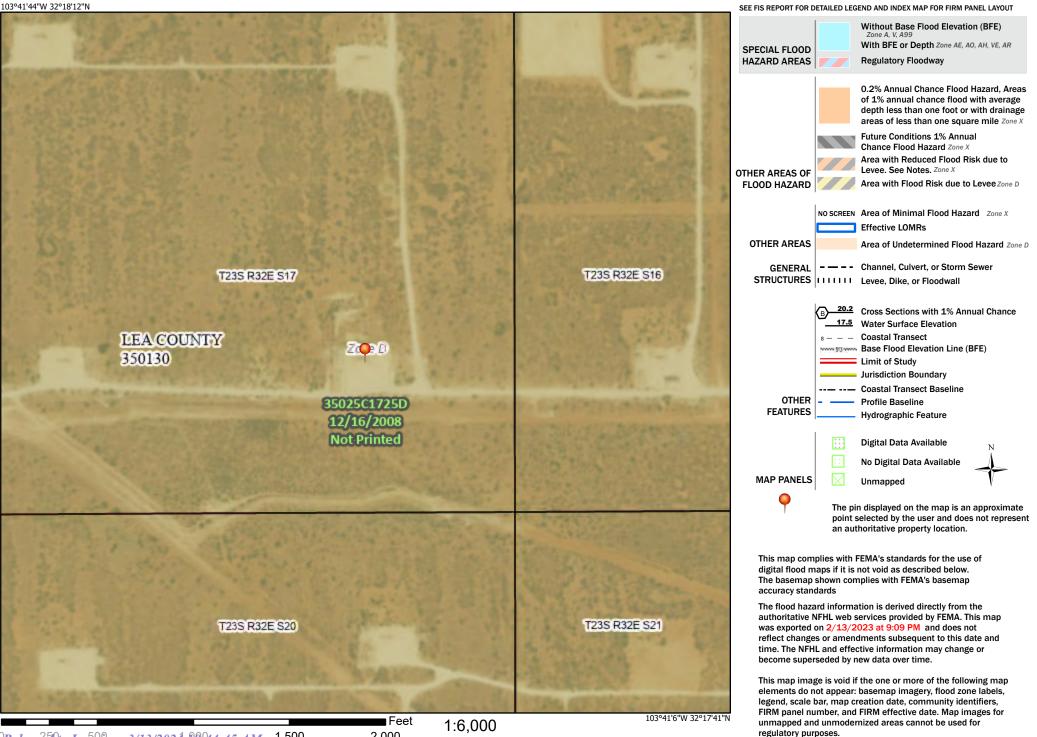
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#### Legend

Page 66 of 309



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Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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Page 67 of 309



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Area of Interest (AOI) Area of Interest (AOI)	(IO)	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:20,000.
Soils	8	Very Stony Spot	Warning: Soil Map may not be valid at this scale.
Soil Map Unit Polygons	/gons	Wet Spot	Enlargement of maps beyond the scale of mapping can cause
Soil Map Unit Lines	ts □	Other	misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of
Special Point Features	t	Special Line Features	contrasting soils that could have been shown at a more detailed scale.
(c) Blowout	Water Fe	Features	
Borrow Pit	{	Streams and Canals	Please rely on the bar scale on each map sheet for map measurements.
	Transportation	rtation Poilo	Source of Map: Natural Resources Conservation Service
Closed Depression	ŧ 1	ndiis Interstate Hirdhwave	Web Soil Survey URL: Constitution Sustem: 1004 Monotor (EDSC-20657)
Gravel Pit		IIS Routes	Mana from the Web Soil Surrow are hand on the Manader
Gravelly Spot		Maior Roads	projection, which preserves direction and shape but distorts
🔕 Landfill	8	Local Roads	distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more
🔪 Lava Flow	Background	und	accurate calculations of distance or area are required.
📥 Marsh or swamp	8	Aerial Photography	This product is generated from the USDA-NRCS certified data as of the version date(s) listed helow.
🙊 Mine or Quarry			or into voloci dato(o) into a dotom. Soil Survay Area: Tea County Naw Mavico
Miscellaneous Water	iter		
Perennial Water			Soil map units are labeled (as space allows) for map scales
Rock Outcrop			1:50,000 or larger.
+ Saline Spot			Date(s) aerial images were photographed: Dec 31, 2009—Sep
Sandy Spot			The orthonhoto or other hase man on which the soil lines were
Severely Eroded Spot	Spot		compiled and digitized probably differs from the background
Sinkhole			imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
📎 Slide or Slip			· ·
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5/18/2020 Page 2 of 3

USDA Natural Resources Conservation Service

Web Soil Survey National Cooperative Soil Survey

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MF	Maljamar and palomas fine sands, 0 to 3 percent slopes	1.4	52.7%
PU	Pyote and maljamar fine sands	1.2	47.3%
Totals for Area of Interest	•	2.6	100.0%



## Lea County, New Mexico

#### MF—Maljamar and palomas fine sands, 0 to 3 percent slopes

#### **Map Unit Setting**

National map unit symbol: dmqb Elevation: 3,000 to 3,900 feet Mean annual precipitation: 10 to 15 inches Mean annual air temperature: 60 to 62 degrees F Frost-free period: 190 to 205 days Farmland classification: Farmland of statewide importance

#### **Map Unit Composition**

Palomas and similar soils: 45 percent
Maljamar and similar soils: 45 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Palomas**

#### Setting

Landform: Plains Landform position (three-dimensional): Rise Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium derived from sandstone

#### **Typical profile**

- A 0 to 16 inches: fine sand Bt - 16 to 60 inches: sandy clay loam Bk - 60 to 66 inches: sandy loam
- BK 00 to 00 menes. Sandy ic

#### Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 45 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Moderate (about 7.5 inches)

#### Available water storage in prome. Moderate (a

#### Interpretive groups

Land capability classification (irrigated): None specified

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

#### **Description of Maljamar**

#### Setting

Landform: Plains Landform position (three-dimensional): Rise Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy eolian deposits derived from sedimentary rock

#### **Typical profile**

A - 0 to 24 inches: fine sand Bt - 24 to 50 inches: sandy clay loam Bkm - 50 to 60 inches: cemented material

#### Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 5.6 inches)

#### Interpretive groups

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

#### **Minor Components**

#### Wink

Percent of map unit: 5 percent Ecological site: Loamy Sand (R042XC003NM) Hydric soil rating: No

#### Kermit

*Percent of map unit:* 5 percent *Ecological site:* Sandhills (R042XC022NM) Hydric soil rating: No

## **Data Source Information**

Soil Survey Area: Lea County, New Mexico Survey Area Data: Version 16, Sep 15, 2019



# Lea County, New Mexico

# PU—Pyote and maljamar fine sands

### Map Unit Setting

National map unit symbol: dmqq Elevation: 3,000 to 3,900 feet Mean annual precipitation: 10 to 12 inches Mean annual air temperature: 60 to 62 degrees F Frost-free period: 190 to 205 days Farmland classification: Not prime farmland

### **Map Unit Composition**

Maljamar and similar soils: 45 percent
Pyote and similar soils: 45 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

### **Description of Maljamar**

#### Setting

Landform: Plains Landform position (three-dimensional): Rise Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy eolian deposits derived from sedimentary rock

### **Typical profile**

A - 0 to 24 inches: fine sand Bt - 24 to 50 inches: sandy clay loam Bkm - 50 to 60 inches: cemented material

### **Properties and qualities**

Slope: 0 to 3 percent
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 5.6 inches)

#### Interpretive groups

Land capability classification (irrigated): 6e Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Ecological site: Loamy Sand (R042XC003NM) Hydric soil rating: No

#### **Description of Pyote**

#### Setting

Landform: Plains Landform position (three-dimensional): Rise Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy eolian deposits derived from sedimentary rock

#### **Typical profile**

A - 0 to 30 inches: fine sand Bt - 30 to 60 inches: fine sandy loam

#### **Properties and qualities**

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 5.1 inches)

#### Interpretive groups

Land capability classification (irrigated): 6e Land capability classification (nonirrigated): 7s Hydrologic Soil Group: A Ecological site: Loamy Sand (R042XC003NM) Hydric soil rating: No

#### **Minor Components**

#### Kermit

Percent of map unit: 10 percent Ecological site: Sandhills (R042XC022NM)



Hydric soil rating: No

# Data Source Information

Soil Survey Area: Lea County, New Mexico Survey Area Data: Version 16, Sep 15, 2019



Conservation Service

USDA Natural Resources

# Ecological site R070BD003NM Loamy Sand

Accessed: 01/15/2023

### **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	<b>Sandy</b> Sandy
R070BD005NM	<b>Deep Sand</b> Deep Sand

#### Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

# **Physiographic features**

This site is on uplands, plains, dunes, fan piedmonts and in inter dunal areas. The parent material consists of mixed alluvium and or eolian sands derived from sedimentary rock. Slope range on this site range from 0 to 9 percent with the average of 5 percent.

Low stabilized dunes may occur occasionally on this site. Elevations range from 2,800 to 5,000 feet.

#### Table 2. Representative physiographic features

Landforms	<ul><li>(1) Fan piedmont</li><li>(2) Alluvial fan</li><li>(3) Dune</li></ul>
Elevation	2,800–5,000 ft
Slope	0–9%
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 207 to 220 days. The last killing frost being late March or early April and the first killing frost being in later 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 this site. Strong winds blow from the southwest from January through June, which accelerates soil drying during a critical period for cool season 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 moderately deep or very deep. Surface textures are loamy fine sand, fine sandy loam, loamy very fine sand or gravelly sandy loam.

Subsurface is a loamy fine sand, coarse sandy loam, fine sandy loam or loam that averages less than 18 percent clay and less than 15 percent carbonates.

Substratum is a fine sandy loam or gravelly fine sandy loam with less than 15 percent gravel and with less than 40 percent calcium carbonate. Some layers high in lime or with caliche fragments may occur at depths of 20 to 30 inches.

These soils, if unprotected by plant cover and organic residue, become wind blown and low hummocks are formed.

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

Characteristic soils are: Maljamar Berino Parjarito Palomas Wink Pyote

## Table 4. Representative soil features

Surface texture	<ul><li>(1) Fine sand</li><li>(2) Fine sandy loam</li><li>(3) Loamy fine sand</li></ul>
Family particle size	(1) Sandy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to moderately rapid

#### *Received by OCD: 3/12/2024 1:36:40 PM*

Soil depth	40–72 in
Surface fragment cover <=3"	0–10%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–7 in
Calcium carbonate equivalent (0-40in)	3–40%
Electrical conductivity (0-40in)	2–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0–2
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	4–12%
Subsurface fragment volume >3" (Depth not specified)	0%

## **Ecological dynamics**

Overview

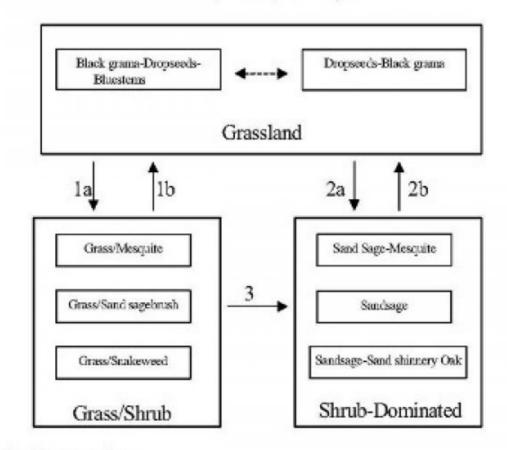
The Loamy Sand site intergrades with the Deep Sand and Sandy sites (SD-3). These sites can be differentiated by surface soil texture and depth to a textural change. Loamy Sand and Deep Sand sites have coarse textured (sands and loamy sand) surface soils while Sandy sites have moderately coarse textured (sandy loam and fine sandy loam) surfaces. Although Loamy Sand and Deep Sand sites have similar surface textures, the depth to a textural change is different—Loamy Sand sub-surface textures typically increase in clay at approximately 20 to 30 inches, and Deep Sand sites not until around 40 inches.

The historic plant community of Loamy Sand sites is dominated by black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus flexuosus, S. contractus, S. cryptandrus*), and bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), with scattered shinnery oak (*Quercus havardii*) and sand sage (*Artemisia filifolia*). Perennial and annual forb abundance and distribution are dependent on precipitation. Litter and to a lesser extent, bare ground, are a significant proportion of ground cover while grasses compose the remainder. Decreases in black grama indicate a transition to either a grass/shrub or shrub-dominated state. The grass/shrub state is composed of grasses/honey mesquite (*Prosopis glandulosa*), grasses/broom snakeweed (*Gutierrezia sarothrae*), or grasses/sand sage. The shrub-dominated state occurs after a severe loss of grass cover and a prevalence of sand sage with secondary shinnery oak and mesquite. Heavy grazing intensity and/or drought are influential drivers in decreasing black grama and bluestems and subsequently increasing shrub cover, erosion, and bare patches. Historical fire suppression also encourages shrub pervasiveness and a competitive advantage over grass species (McPherson 1995). Brush and grazing management, however, may reverse grass/shrub and shrub-dominated states toward the grassland-dominated historic plant community.

## State and transition model

# Plant Communities and Transitional Pathways (diagram):

# MLRA-42, SD-3, Loamy Sand



1a. Drought, over grazing, fire suppression.

1b. Brush control, prescribed grazing

Severe loss of grass cover, fire suppression, erosion.
 Brush control, seeding, prescribed grazing.

3. Continued loss of grass cover, erosion.

# State 1 Historic Climax Plant Community

# Community 1.1 Historic Climax Plant Community

Grassland: The historic plant community is a uniformly distributed grassland dominated by black grama, dropseeds, and bluestems. Sand sage and shinnery oak are evenly dispersed throughout the grassland due to the coarse soil

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surface texture. Perennial and annual forbs are common but their abundance and distribution are reflective of precipitation. Bluestems initially, followed by black grama, decrease with drought and heavy grazing intensity. Historical fire frequency is unknown but likely occurred enough to remove small shrubs to the competitive advantage of grass species. Fire suppression, drought conditions, and excessive grazing drive most grass species out of competition with shrub species. Diagnosis: Grassland dominated by black grama, dropseeds, and bluestems. Shrubs, such as sand sage, shinnery oak, and mesquite are dispersed throughout the grassland. Forbs are present and populations fluctuate with precipitation variability.

#### Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	
Grass/Grasslike	442	833	1224
Forb	110	208	306
Shrub/Vine	98	184	270
Total	650	1225	1800

#### Table 6. Ground cover

Tree foliar cover	0%				
Shrub/vine/liana foliar cover					
Grass/grasslike foliar cover					
Forb foliar cover	0%				
Non-vascular plants	0%				
Biological crusts					
Litter					
Surface fragments >0.25" and <=3"	0%				
Surface fragments >3"	0%				
Bedrock	0%				
Water	0%				
Bare ground	22%				

Figure 5. Plant community growth curve (percent production by month). NM2803, R042XC003NM-Loamy Sand-HCPC. SD-3 Loamy Sand - Warm season plant community .

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

# State 2 Grass/Shrub

Community 2.1 Grass/Shrub Grass/Shrub



 Black grama/Mesquite community, with some dropseeds, threeways, and scattered and shimnery oak
 Orass cover low to moderate

Grass/Shrub State: The grass/shrub state is dominated by communities of grasses/mesquite, grasses/snakeweed, or grasses/sand sage. Decreases in black grama and bluestem species lead to an increase in bare patches and mesquite which further competes with grass species. An increase of dropseeds and threeawns occurs. Grass distribution becomes more patchy with an absence or severe decrease in black grama and bluestems. Mesquite provides nitrogen and soil organic matter to co-dominant grasses (Ansley and Jacoby 1998, Ansley et al. 1998). Mesquite mortality when exposed to fire is low due to aggressive resprouting abilities. Herbicide application combined with subsequent prescribed fire may be more effective in mesquite reduction (Britton and Wright 1971). Diagnosis: This state is dominated by an increased abundance of communities including grass/mesquite, grass/snakeweed, or grass/sand sage. Dropseeds and threeawns have a patchy distribution. Transition to Grass/Shrub State (1a): The historic plant community begins to shift toward the grass/shrub state as drivers such as drought, fire suppression, interspecific competition, and excessive grazing contribute to alterations in soil properties and herbaceous cover. Cover loss and surface soil erosion are initial indicators of transition followed by a decrease in black grama with a subsequent increase of dropseeds, threeawns, mesquite, and snakeweed. Snakeweed has been documented to outcompete black grama especially under conditions of fire suppression and drought (McDaniel et al. 1984). Key indicators of approach to transition: • Loss of black grama cover • Surface soil erosion • Bare patch expansion • Increased dropseed/threeawn and mesquite, snakeweed, or sand sage abundances Transition to Historic Plant Community (1b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community.

# State 3 Shrub Dominated

# Community 3.1 Shrub Dominated

Shrub-Dominated State: The shrub-dominated state results from a severe loss of grass cover. This state's primary species is sand sage. Shinnery oak and mesquite also occur; however, grass cover is limited to intershrub distribution. Sand sage stabilizes light sandy soils from wind erosion, which enhances protected grass/forb cover (Davis and Bonham 1979). However, shinnery oak also responds to the sandy soils with dense stands due to an

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aggressive rhizome system. Shinnery oak's extensive root system promotes competitive exclusion of grasses and forbs. Sand sage, shinnery oak, and mesquite can be controlled with herbicide (Herbel et al. 1979, Pettit 1986). Transition to Shrub-Dominated (2a): Severe loss of grass species with increased erosion and fire suppression will result in a transition to a shrub-dominated state with sand sage, Shin oak, and honey mesquite directly from the grassland-dominated state. Key indicators of approach to transition: • Severe loss of grass species cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite abundance Transition to Historic Plant Community (2b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community. In addition, seeding with native grass species will augment the transition to a grassland-dominated state. Transition to Shrub-Dominated (3): If the grass/shrub site continues to lose grass cover with soil erosion, the site will transition to a shrub-dominated state with sand sage, shinnery oak, and honey mesquite. Key indicators of approach to transition: • Continual loss of dropseeds/threeawns cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite/snakeweed abundance

# 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			61–123	
	little bluestem	SCSC	Schizachyrium scoparium	61–123	_
2	Warm Season		•	37–61	
	sand bluestem	ANHA	Andropogon hallii	37–61	_
3	Warm Season		•	37–61	
	cane bluestem	BOBA3	Bothriochloa barbinodis	37–61	-
	silver bluestem	BOSA	Bothriochloa saccharoides	37–61	_
4	Warm Season	ŧ	•	123–184	
	black grama	BOER4	Bouteloua eriopoda	123–184	_
	bush muhly	MUPO2	Muhlenbergia porteri	123–184	-
5	Warm Season	•	•	123–184	
	thin paspalum	PASE5	Paspalum setaceum	123–184	-
	plains bristlegrass	SEVU2	Setaria vulpiseta	123–184	_
	fringed signalgrass	URCI	Urochloa ciliatissima	123–184	-
6	Warm Season			123–184	
	spike dropseed	SPCO4	Sporobolus contractus	123–184	-
	sand dropseed	SPCR	Sporobolus cryptandrus	123–184	-
	mesa dropseed	SPFL2	Sporobolus flexuosus	123–184	-
7	Warm Season	•		61–123	
	hooded windmill grass	CHCU2	Chloris cucullata	61–123	-
	Arizona cottontop	DICA8	Digitaria californica	61–123	-
9	Other Perennial Grasses			37–61	
	Grass, perennial	2GP	Grass, perennial	37–61	-
Shrub	/Vine	•	•	•	•
8	Warm Season			37–61	
	New Mexico feathergrass	HENE5	Hesperostipa neomexicana	37–61	-
	giant dropseed	SPGI	Sporobolus giganteus	37–61	-
10	Shrub	·	•	61–123	
	i		T		İ

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	sand sagebrush	ARFI2	Artemisia filifolia	61–123	1 uge 05 0j
	Havard oak	QUHA3	Quercus havardii	61–123	
		QUIAS	Quercus navarun		
11	Shrub			34–61	
	fourwing saltbush	ATCA2	Atriplex canescens	37–61	_
	featherplume	DAFO	Dalea formosa	37–61	-
12	Shrub			37–61	
	jointfir	EPHED	Ephedra	37–61	-
	littleleaf ratany	KRER	Krameria erecta	37–61	_
13	Other Shrubs			37–61	
	Shrub (>.5m)	2SHRUB	Shrub (>.5m)	37–61	_
Forb					
14	Forb			61–123	
	leatherweed	CRPOP	Croton pottsii var. pottsii	61–123	-
	Indian blanket	GAPU	Gaillardia pulchella	61–123	-
	globemallow	SPHAE	Sphaeralcea	61–123	_
15	Forb		·	12–37	
	woolly groundsel	PACA15	Packera cana	12–37	_
16	Forb			61–123	
	touristplant	DIWI2	Dimorphocarpa wislizeni	61–123	_
	woolly plantain	PLPA2	Plantago patagonica	61–123	_
17	Other Forbs	-		37–61	
	Forb (herbaceous, not grass nor grass-like)	2FORB	Forb (herbaceous, not grass nor grass-like)	37–61	_

## **Animal community**

This Ecological Site provides habitat which supports a resident animal community that is characterized by pronghorn antelope, desert cottontail, spotted ground squirrel, black-tailed prairie dog, yellow faced pocket gopher, Ord's kangaroo rat, northern grasshopper mouse, southern plains woodrat, badger, roadrunner, meadowlark, burrowing owl, white necked raven, lesser prairie chicken, morning dove, scaled quail, Harris hawk, side blotched lizard, marbled whiptail, Texas horned lizard, western diamondback rattlesnake, dusty hognose snake and ornate box turtle.

Where mesquite has invaded, most resident birds and scissor-tailed flycatcher, morning dove and Swainson's hawk, nest. Vesper and grasshopper sparrows utilize the site during migration.

## 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 Berino B Kinco A Maljamar B Pajarito B Palomas B Wink B Pyote A

## **Recreational uses**

This site offers recreation potential for hiking, borseback riding, nature observation, photography and hunting. During years of abundant spring moisture, this site displays a colorful array of wildflowers during May and June.

## Wood products

This site has no potential for wood products.

# **Other products**

This site is suitable for grazing by all kinds and classes of livestock at any time of year. In cases where this site has been invaded by brush species it is especially suited for goats. Mismanagement of this site will cause a decrease in species such as the bluestems, blsck grama, bush muhly, plains bristlegrass, New Mexico feathergrass, Arizona cottontop and fourwing saltbush. A corresponding increase in the dropseeds, windmill grass, fall witchgrass, silver bluestem, sand sagebrush, shinery oak and ephedra will occur. This will also cause an increase in bare ground which will increase soil erodibility. This site will respond well 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 2.3 - 3.575 - 51 3.0 - 4.550 - 26 4.6 - 9.025 - 0 9.1 +

### 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**

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### Contributors

Don Sylvester Quinn Hodgson

## 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:

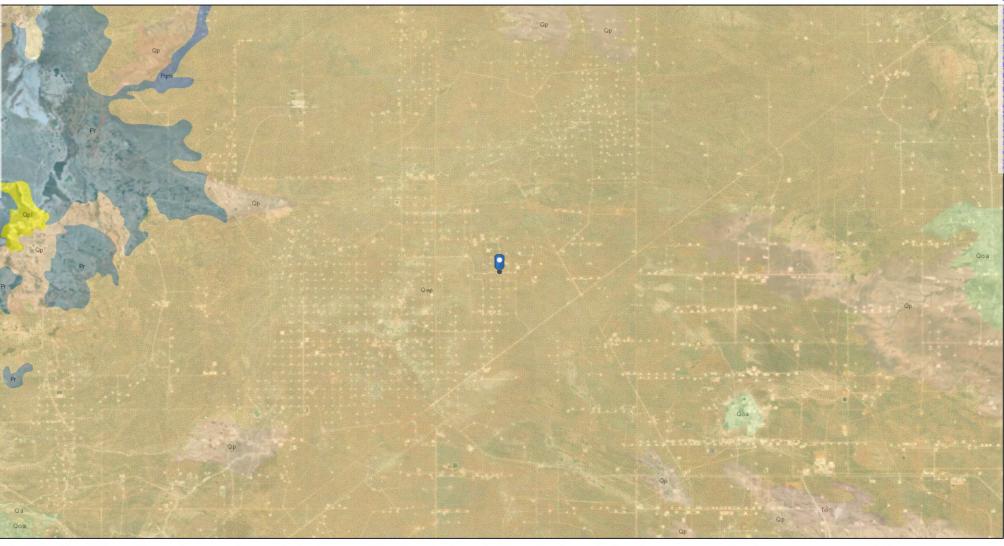
Sub-dominant:

Other:

Additional:

- 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 annualproduction):
- 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:

# Tomcat 17 Fed 1





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of 309

# **ATTACHMENT 5**

Client Name: Devon Energy Production Company, LP Site Name: Tomcat 17 Federal #001 NM OCD Tracking #: nSAP0219636264, nKJ1524345298 (1RP-3833) Project #: 21E-02816-27 Lab Reports: 2205815, 2208929, 2212446, 2301712

		Table 2. Sample	e Field Scr	een and La	boratory	Results - D	epth to G			-			
	Sample Des	cription	Fi	eld Screeni	ng			Petrole	um Hydro				
			ds			Vola	atile			Extractable	5	T	Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds           3           (PID)	Extractable Organic Compounds (PetroFlag)	() () () () () () () () () () () () () (	eue Beuzeue (mg/kg)	) BTEX (Total) (b)	월 영 Gasoline Range Organics 영 (GRO)	a Diesel Range Organics (DRO)	a) Motor Oil Range Organics (MRO)	(000 + 040) (mg/kg)	없. Total Petroleum 위 Hydrocarbons (TPH)	(a) (a) (a) (b)
	0	May 15, 2022	2	460	ND	ND	ND	ND	47	84	47	131	71
	0	August 10, 2022	-	574	161	ND	ND	ND	330	440	330	770	ND
BH22-01	2	May 15, 2022	1	330	ND	ND	ND	ND	75	83	75	158	ND
	2	August 10, 2022	-	-	163	ND	ND	ND	310	420	310	730	ND
	4	May 15, 2022	1	180	ND	ND	ND	ND	ND	ND	ND	ND	75
	0	May 15, 2022	1	200	ND	ND	ND	ND	ND	ND	ND	ND	72
	0	August 10, 2022	-	-	54	ND	ND	ND	ND	ND	ND	ND	ND
BH22-02	2	May 15, 2022	1	80	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 10, 2022	-	17	28	ND	ND	ND	ND	ND	ND	ND	ND
	4	May 15, 2022	1	40	ND	ND	ND	ND	ND	ND	ND	ND	ND
	0	May 15, 2022	0	>10,000	ND	ND	ND	ND	8300	8000	8,300	16,300	ND
	0	August 10, 2022	-	42	37	ND	ND	ND	ND	ND	ND	ND	ND
BH22-03	2	May 15, 2022	1	260	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 10, 2022	-	-	64	ND	ND	ND	ND	ND	ND	ND	ND
	4	May 15, 2022	1	230	ND	ND	ND	ND	ND	ND	ND	ND	ND
	0	May 15, 2022	0	80	ND 10	ND	ND	ND	ND	ND	ND	ND	ND
BH22-04	2	August 10, 2022	-	- 40	49 ND	ND	ND ND	ND	1200	1900	1,200	3,100	ND
51122 04	2	May 15, 2022 August 10, 2022	1	>10,000	ND 40	ND ND	ND	ND ND	ND 1300	ND 1700	ND 1,300	ND 3,000	ND ND
	4	May 15, 2022	1	110	40 ND	ND	ND	ND	ND	ND	ND	ND	ND
	0	May 15, 2022 May 15, 2022	0	>10,000	ND	ND	ND	ND	4600	4600	4,600	9,200	ND
	0	August 10, 2022	-	29	63	ND	ND	ND	ND	ND	ND	ND	ND
BH22-05	2	May 15, 2022	1	780	ND	ND	ND	ND	73	120	73	193	ND
	2	August 10, 2022	-	-	62	ND	ND	ND	ND	ND	ND	ND	ND
	4	May 15, 2022	2	240	ND	ND	ND	ND	ND	ND	ND	ND	ND
	0	May 15, 2022	1	240	ND	ND	ND	ND	ND	ND	ND	ND	98
	0	August 10, 2022	-	81	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-06	2	May 15, 2022	1	3,540	ND	ND	ND	ND	120	480	120	600	ND
	2	August 10, 2022	-	-	27	ND	ND	ND	ND	ND	ND	ND	ND
	4	May 15, 2022	1	160	ND	ND	ND	ND	ND	ND	ND	ND	ND
	0	May 15, 2022	1	240	ND	ND	ND	ND	ND	ND	ND	ND	ND
01122.07	0	August 10, 2022	-	-	72	ND	ND	ND	ND	ND	ND	ND	ND
BH22-07	2	May 15, 2022 August 10, 2022	103	<b>460</b>	ND	ND	ND	ND	230	140	230	370	ND
	4	May 15, 2022	- 7	51 <b>800</b>	124 ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
	4	May 15, 2022 May 15, 2022	2	230	1,003	ND	ND	ND	ND	ND	ND	ND	560
	0	August 10, 2022	-	40	378	ND	ND	ND	ND	ND	ND	ND	340
BH22-08	2	May 15, 2022	1	170	297	ND	ND	ND	ND	ND	ND	ND	400
	2	August 10, 2022	-	-	456	ND	ND	ND	ND	ND	ND	ND	400
	4	May 15, 2022	1	260	3,015	ND	ND	ND	ND	ND	ND	ND	1,900
BH22-09	0	December 6, 2022	0	45	317	ND	ND	ND	ND	ND	ND	ND	92
01122-03	2	December 6, 2022	0	31	28	ND	ND	ND	ND	ND	ND	ND	76
BH22-10	0	December 6, 2022	0	40	255	ND	ND	ND	ND	ND	ND	ND	96
	2	December 6, 2022	0	30	112	ND	ND	ND	ND	ND	ND	ND	90
BH22-11	0	December 6, 2022	0	22	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	December 6, 2022	0	21	ND	ND	ND	ND	ND	ND	ND	ND	75
BH22-12	0	December 6, 2022	0	-	943	ND	ND	ND	ND	ND	ND	ND	680
		December 6, 2022	0	55	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH22-13	0	December 6, 2022 December 6, 2022	0	40 36	5 ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	61 ND
	0	December 6, 2022	0	64	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH22-14	2	December 6, 2022	0	51	ND	ND	ND	ND	ND	ND	ND	ND	ND
	-		ř	22									



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Client Name: Devon Energy Production Company, LP Site Name: Tomcat 17 Federal #001 NM OCD Tracking #: nSAP0219636264, nKJ1524345298 (1RP-3833) Project #: 21E-02816-27 Lab Reports: 2205815, 2208929, 2212446, 2301712

							y Results - Depth to Groundwater 51-100 feet bgs						
	Sample Des	cription	Fi	eld Screeni	ng			Petrole	um Hydrod	arbons			
			st			Vola	atile			Extractable	5		Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	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 Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH22-15	0	January 16, 2023	0	9	303	ND	ND	ND	ND	ND	ND	ND	ND
	2	January 16, 2023	0	3	216	ND	ND	ND	ND	ND	ND	ND	ND
BH22-16	0	January 16, 2023	0	2	170	ND	ND	ND	ND	ND	ND	ND	ND
	2	January 16, 2023	0	5	223	ND	ND	ND	ND	ND	ND	ND	ND
BH22-17	0	January 16, 2023	0	17	212	ND	ND	ND	ND	ND	ND	ND	ND
	2	January 16, 2023	0	1	232	ND	ND	ND	ND	ND	ND	ND	ND
DU22 40	0	January 16, 2023	0	21	168	ND	ND	ND	ND	ND	ND	ND	ND
BH22-18	2	January 16, 2023	0	12	168	ND	ND	ND	ND	ND	ND	ND	ND
	4	January 16, 2023	0	15	248	ND	ND	ND	ND	ND	ND	ND	ND
DU122 10	0	January 16, 2023	0	14	193	ND	ND	ND	ND	ND	ND	ND	ND
BH22-19	2	January 16, 2023	0	12	333	ND	ND	ND	ND	ND	ND	ND	71
	4	January 16, 2023	0	11	506	ND	ND	ND	ND	ND	ND	ND	140
BH22-20	0	January 16, 2023	0	11	331	ND	ND	ND	ND	ND	ND	ND	ND
вп22-20	4	January 16, 2023	0	14 9	164 202	ND ND	ND ND	ND	ND ND	ND ND	ND	ND ND	ND ND
		January 16, 2023	-					ND			ND		
BH22-21	0	January 17, 2023	0	1	554	ND	ND	ND	ND	ND	ND	ND	140
DH22-21	4	January 17, 2023	0	4 12	292 230	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
	4	January 17, 2023 January 17, 2023	0		170								
BH22-22	2	January 17, 2023 January 17, 2023	0	48	170	ND	ND	ND	ND	ND	ND	ND	ND
01122-22	4	January 17, 2023	0	14 19	262	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
	4	January 17, 2023	0	19 51	152	ND	ND			ND			ND
BH22-23	2	January 17, 2023	0	24	132	ND	ND	ND ND	ND ND	ND	ND ND	ND ND	ND
51122 25	4	January 17, 2023	0	10	139	ND	ND	ND	ND	ND	ND	ND	ND
		January 17, 2023	0	51	298	ND	ND	ND	ND	ND	ND	ND	61
BH22-24	2	January 17, 2023	0	40	376	ND	ND	ND	ND	ND	ND	ND	ND
	4	January 17, 2023	0	26	190	ND	ND	ND	ND	ND	ND	ND	ND
	0	January 17, 2023	0	20	246	ND	ND	ND	ND	ND	ND	ND	ND
BH22-25	2	January 17, 2023	0	25	232	ND	ND	ND	ND	ND	ND	ND	ND
	4	January 17, 2023	0	27	337	ND	ND	ND	ND	ND	ND	ND	ND
	4	January 17, 2023	0	391	1,189	ND	ND	ND	43	74	43	117	520
BH22-26	6	January 17, 2023	0	77	907	ND	ND	ND	13	ND	13	13	430
	8	January 17, 2023	0	72	635	ND	ND	ND	17	ND	17	17	250
	4	January 17, 2023	0	16	2,033	ND	ND	ND	ND	ND	ND	ND	1100
BH22-27	6	January 17, 2023	0	57	532	ND	ND	ND	ND	ND	ND	ND	220
	8	January 17, 2023	0	27	337	ND	ND	ND	ND	ND	ND	ND	92

"ND" Not Detected at the Reporting Limit "-" indicates not analyzed/assessed

Bold and grey shaded indicates exceedance outside of NMOCD Remediation Closure Criteria

Bold and green shaded indicates exceedance outside of NMOCD Reclamation Closure Criteria



.

Client Name: Devon Energy Production Company, LP Site Name: Tomcat 17 Federal #001 NM OCD Tracking #: nSAP0219636264, nKJ1524345298 (1RP-3833) Project #: 21E-02816-27 Lab Reports: 2212806, 2212905, 2212E06, 2301323

								oratory Results - Depth to Groundwater 51-100 feet bgs						
	Sample Des	cription	Fi	eld Screeni	ng			Petrole	um Hydrod	arbons				
			łs			Vola	atile			Extractable	9		Inorganic	
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics	Motor Oil Range Organics (MRO)	(GRO + DRO)	Hydrocarbons (TPH)	Chloride Concentration	
DC22_01	2	December 12, 2022	(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BS22-01 BS22-02	2	December 12, 2022	0	31	233	ND	ND	ND	ND	ND	ND	ND	ND	
-	2	December 12, 2022	0	20	119	ND	ND	ND	ND	ND	ND	ND	100	
BS22-03 BS22-04	2	December 12, 2022	0	36	44	ND	ND	ND	ND	ND	ND	ND	ND	
BS22-04 BS22-05	4	December 12, 2022 December 13, 2022	0 12	42 87	232 5,230	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND 2000	
BS22-05 BS22-06	4	December 13, 2022	0	55	6,556	ND	ND	ND	ND	ND	ND	ND	4400	
BS22-00 BS22-07	4	December 13, 2022	0	25	4,159	ND	ND	ND	ND	ND	ND	ND	2700	
BS22-07	4	December 13, 2022	0	188	7,320	ND	ND	ND	43	100	43	143	4900	
BS22-00	4	December 13, 2022	0	89	5,074	ND	ND	ND	18	54	18	72	3200	
BS22-10	4	December 22, 2022	0	300	4,986	ND	ND	ND	61	160	61	221	4200	
BS22-11	4	December 22, 2022	0	1,174	3,270	ND	ND	ND	280	480	280	760	2500	
BS22-12	4	December 22, 2022	0	1,017	4,911	ND	ND	ND	250	480	250	730	5400	
BS22-13	4	December 22, 2022	0	618	7,635	ND	ND	ND	200	470	200	670	4200	
BS22-14	4	January 7, 2023	0	169	2,164	ND	ND	ND	ND	ND	ND	ND	1800	
BS22-15	4	January 7, 2023	0	34	2,560	ND	ND	ND	9.8	ND	9.8	9.8	1400	
WS22-01	0-2	December 12, 2022	0	22	463	ND	ND	ND	ND	ND	ND	ND	110	
WS22-02	0-2	December 12, 2022	0	32	ND	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-03	0-2	December 12, 2022	0	46	393	ND	ND	ND	ND	ND	ND	ND	170	
WS22-04	0-2	December 12, 2022	0	37	473	ND	ND	ND	ND	ND	ND	ND	150	
WS22-05	0-2	December 12, 2022	0	36	402	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-06	0-2	December 12, 2022	0	34	342	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-07	0-4	December 12, 2022	0	70	616	ND	ND	ND	ND	ND	ND	ND	140	
WS22-08	0-4	December 12, 2022	0	41	630	ND	ND	ND	ND	ND	ND	ND	150	
WS22-09	0-4	December 12, 2022	0	47	370	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-10	0-4	December 12, 2022	0	47	ND	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-11	0-4	December 12, 2022	0	51	337	ND	ND	ND	ND	ND	ND	ND	250	
WS22-12	2-4	December 12, 2022	0	51	375	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-13	0-4	December 12, 2022	0	29	307	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-14	0-4	December 22, 2022	0	86	53	ND	ND	ND	ND	ND	ND	ND	130	
WS22-15	0-4	December 22, 2022	0	90	212	ND	ND	ND	ND	ND	ND	ND	170	
WS22-16	0-4	December 22, 2022	0	31	479	ND	ND	ND	ND	ND	ND	ND	410	
WS22-17	0-4	January 7, 2023	0	23	368	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-18	0-4	January 7, 2023	0	23	522	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-19	0-4	January 7, 2023	0	28	523	ND	ND	ND	ND	ND	ND	ND	ND	
WS22-20	0-4	January 7, 2023	0	27	480	ND	ND	ND	ND	ND	ND	ND	120	
WS22-21	0-4	January 7, 2023	0	15	467	ND	ND	ND	ND	ND	ND	ND	72	

"ND" Not Detected at the Reporting Limit

Bold and grey shaded indicates exceedance outside of NMOCD Remediation Closure Criteria

Bold and green shaded indicates exceedance outside of NMOCD Reclamation Closure Criteria



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# **ATTACHMENT 6**

Thu, Dec 8, 2022 at 1:52 PM



### Dhugal Hanton <vertexresourcegroupusa@gmail.com>

# 48-Hour Notification - Tomcat 17 Federal 1

6 messages

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

All,

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

nKJ1524345298 pKJ1524348116

On Monday, December 12, 2022, at approximately 8:00 a.m., Vertex will be on-site to conduct confirmation sampling. The sampling will continue until Friday, December 16, 2022. If you have any questions regarding this notification or need directions to the site, please contact Kent Stallings at 346-814-1413.

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> Thu, Dec 8, 2022 at 2:04 PM To: Dhugal Hanton <vertexresourcegroupusa@gmail.com> Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Billings, Bradford, EMNRD" <Bradford.Billings@emnrd.nm.gov>

Please be aware that notification requirements are **two business days**, per rule. Please proceed on your schedule. Also, please include this, and all correspondence, in the closure report to insure inclusion 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

Received by OCD: 3/12/2024 1:36:40 PM



Page 94 of 309

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com> Sent: Thursday, December 8, 2022 1:53 PM To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov> Cc: dale.woodall@dvn.com; KStallings@vertex.ca Subject: [EXTERNAL] 48-Hour Notification - Tomcat 17 Federal 1

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@emnrd.nm.gov> Tue, Dec 20, 2022 at 8:03 AM

All,

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

nKJ1524345298, Tomcat 17 Federal 1 pKJ1524348116

On Monday, December 22, 2022, at approximately 8:00 a.m through December 23, 2023, Vertex will be on-site to conduct confirmation sampling. If you have any questions regarding this notification or need directions to the site, please contact Kent Stallings at 346-814-1413.

Thank you,

Kent Stallings [Quoted text hidden]

Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov> Tue, Dec 20, 2022 at 10:16 AM To: Dhugal Hanton <vertexresourcegroupusa@gmail.com> Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Billings, Bradford, EMNRD" <Bradford.Billings@emnrd.nm.gov>

Kent,

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

[Quoted text hidden]

Dhugal Hanton <vertexresourcegroupusa@gmail.com> To: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov> Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Billings, Bradford, EMNRD" <Bradford.Billings@emnrd.nm.gov>

Tue, Jan 3, 2023 at 4:18 PM

Released to Imaging: 3/13/2024 10:44:45 AM

All,

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

nKJ1524345298, Tomcat 17 Federal 1 pKJ1524348116, Tomcat 17 Federal 1

On Saturday, January 7, 2023 at approximately 8:00 a.m, Vertex will be on-site to conduct final confirmation sampling. If you have any questions regarding this notification or need directions to the site, please contact Kent Stallings at 346-814-1413.

Thank you,

Kent Stallings [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> Tue, Jan 3, 2023 at 4:54 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]

# **ATTACHMENT 7**



May 26, 2022

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

RE: Tomcat 17 Federal 001

OrderNo.: 2205815

Hall Environmental Analysis Laboratory

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

Website: www.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 24 sample(s) on 5/18/2022 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-01 0' Collection Date: 5/15/2022 7:55:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-001	Matrix: SOIL	Reco	eived Date:	5/18/2	022 8:27:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB
Diesel Range Organics (DRO)	47	9.9	mg/Kg	1	5/20/2022 6:20:57 PM
Motor Oil Range Organics (MRO)	84	50	mg/Kg	1	5/20/2022 6:20:57 PM
Surr: DNOP	84.4	51.1-141	%Rec	1	5/20/2022 6:20:57 PM
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/20/2022 12:39:39 AM
Surr: BFB	96.5	37.7-212	%Rec	1	5/20/2022 12:39:39 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	5/20/2022 12:39:39 AM
Toluene	ND	0.050	mg/Kg	1	5/20/2022 12:39:39 AM
Ethylbenzene	ND	0.050	mg/Kg	1	5/20/2022 12:39:39 AM
Xylenes, Total	ND	0.10	mg/Kg	1	5/20/2022 12:39:39 AM
Surr: 4-Bromofluorobenzene	98.8	70-130	%Rec	1	5/20/2022 12:39:39 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	71	59	mg/Kg	20	5/23/2022 3:11:18 PM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 33

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-01 2' Collection Date: 5/15/2022 8:00:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-002	Matrix: SOIL	Received Date: 5/18/2022 8:27:00 AM						
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB			
Diesel Range Organics (DRO)	75	9.0	mg/Kg	1	5/20/2022 6:54:02 PM			
Motor Oil Range Organics (MRO)	83	45	mg/Kg	1	5/20/2022 6:54:02 PM			
Surr: DNOP	89.8	51.1-141	%Rec	1	5/20/2022 6:54:02 PM			
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: NSB			
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 1:50:00 AM			
Surr: BFB	95.9	37.7-212	%Rec	1	5/20/2022 1:50:00 AM			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	ND	0.025	mg/Kg	1	5/20/2022 1:50:00 AM			
Toluene	ND	0.049	mg/Kg	1	5/20/2022 1:50:00 AM			
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 1:50:00 AM			
Xylenes, Total	ND	0.098	mg/Kg	1	5/20/2022 1:50:00 AM			
Surr: 4-Bromofluorobenzene	99.4	70-130	%Rec	1	5/20/2022 1:50:00 AM			
EPA METHOD 300.0: ANIONS					Analyst: CAS			
Chloride	ND	59	mg/Kg	20	5/23/2022 3:23:43 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 Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 33

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-01 4' Collection Date: 5/15/2022 8:05:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-003	Matrix: SOIL	Received Date: 5/18/2022 8:27:00 AM						
Analyses	Result	RL Qua	al Units	DF	Date Analyzed			
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB			
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/20/2022 7:05:01 PM			
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/20/2022 7:05:01 PM			
Surr: DNOP	92.7	51.1-141	%Rec	1	5/20/2022 7:05:01 PM			
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: NSB			
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 3:00:39 AM			
Surr: BFB	92.5	37.7-212	%Rec	1	5/20/2022 3:00:39 AM			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	ND	0.025	mg/Kg	1	5/20/2022 3:00:39 AM			
Toluene	ND	0.049	mg/Kg	1	5/20/2022 3:00:39 AM			
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 3:00:39 AM			
Xylenes, Total	ND	0.099	mg/Kg	1	5/20/2022 3:00:39 AM			
Surr: 4-Bromofluorobenzene	95.0	70-130	%Rec	1	5/20/2022 3:00:39 AM			
EPA METHOD 300.0: ANIONS					Analyst: CAS			
Chloride	75	60	mg/Kg	20	5/23/2022 3:36:07 PM			

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

**Qualifiers:** 

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

Page 3 of 33

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-02 0' Collection Date: 5/15/2022 8:10:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-004	Matrix: SOIL	<b>Received Date:</b> 5/18/2022 8:27:00 AM						
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB			
Diesel Range Organics (DRO)	ND	8.5	mg/Kg	1	5/20/2022 7:16:01 PM			
Motor Oil Range Organics (MRO)	ND	42	mg/Kg	1	5/20/2022 7:16:01 PM			
Surr: DNOP	86.8	51.1-141	%Rec	1	5/20/2022 7:16:01 PM			
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: NSB			
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 3:24:19 AM			
Surr: BFB	91.8	37.7-212	%Rec	1	5/20/2022 3:24:19 AM			
EPA METHOD 8021B: VOLATILES					Analyst: NSB			
Benzene	ND	0.025	mg/Kg	1	5/20/2022 3:24:19 AM			
Toluene	ND	0.049	mg/Kg	1	5/20/2022 3:24:19 AM			
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 3:24:19 AM			
Xylenes, Total	ND	0.099	mg/Kg	1	5/20/2022 3:24:19 AM			
Surr: 4-Bromofluorobenzene	96.4	70-130	%Rec	1	5/20/2022 3:24:19 AM			
EPA METHOD 300.0: ANIONS					Analyst: CAS			
Chloride	72	60	mg/Kg	20	5/23/2022 3:48:31 PM			

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

**Qualifiers:** 

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

Page 4 of 33

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-02 2' Collection Date: 5/15/2022 8:15:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-005	Matrix: SOIL	Rece	ived Date:	5/18/2	022 8:27:00 AM
Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	5/20/2022 7:27:02 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	5/20/2022 7:27:02 PM
Surr: DNOP	88.8	51.1-141	%Rec	1	5/20/2022 7:27:02 PM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 3:47:56 AM
Surr: BFB	95.8	37.7-212	%Rec	1	5/20/2022 3:47:56 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	5/20/2022 3:47:56 AM
Toluene	ND	0.049	mg/Kg	1	5/20/2022 3:47:56 AM
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 3:47:56 AM
Xylenes, Total	ND	0.097	mg/Kg	1	5/20/2022 3:47:56 AM
Surr: 4-Bromofluorobenzene	97.4	70-130	%Rec	1	5/20/2022 3:47:56 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	ND	60	mg/Kg	20	5/23/2022 4:00:55 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-02 4' Collection Date: 5/15/2022 8:20:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-006	Matrix: SOIL	Rece	022 8:27:00 AM		
Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/20/2022 7:38:02 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/20/2022 7:38:02 PM
Surr: DNOP	92.7	51.1-141	%Rec	1	5/20/2022 7:38:02 PM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/20/2022 4:11:32 AM
Surr: BFB	96.1	37.7-212	%Rec	1	5/20/2022 4:11:32 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	5/20/2022 4:11:32 AM
Toluene	ND	0.050	mg/Kg	1	5/20/2022 4:11:32 AM
Ethylbenzene	ND	0.050	mg/Kg	1	5/20/2022 4:11:32 AM
Xylenes, Total	ND	0.099	mg/Kg	1	5/20/2022 4:11:32 AM
Surr: 4-Bromofluorobenzene	98.2	70-130	%Rec	1	5/20/2022 4:11:32 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	ND	60	mg/Kg	20	5/23/2022 4:38:09 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-03 0' Collection Date: 5/15/2022 8:55:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-007	Matrix: SOIL	R	eceivo	ed Date:	5/18/20	022 8:27:00 AM
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst: SB
Diesel Range Organics (DRO)	8300	990		mg/Kg	100	5/20/2022 7:49:03 PM
Motor Oil Range Organics (MRO)	8000	4900		mg/Kg	100	5/20/2022 7:49:03 PM
Surr: DNOP	0	51.1-141	S	%Rec	100	5/20/2022 7:49:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	5/20/2022 4:34:57 AM
Surr: BFB	91.9	37.7-212		%Rec	5	5/20/2022 4:34:57 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/20/2022 4:34:57 AM
Toluene	ND	0.25		mg/Kg	5	5/20/2022 4:34:57 AM
Ethylbenzene	ND	0.25		mg/Kg	5	5/20/2022 4:34:57 AM
Xylenes, Total	ND	0.50		mg/Kg	5	5/20/2022 4:34:57 AM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	5	5/20/2022 4:34:57 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	5/23/2022 4:50:33 PM

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

**Qualifiers:** 

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

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Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

2205815-008

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-03 2' Collection Date: 5/15/2022 9:00:00 AM Received Date: 5/18/2022 8:27:00 AM

<b>Eub ID:</b> 2203013 000	Muulai Sole							
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst: SB			
Diesel Range Organics (DRO)	ND	9.0	mg/Kg	1	5/20/2022 8:00:02 PM			
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	5/20/2022 8:00:02 PM			
Surr: DNOP	91.9	51.1-141	%Rec	1	5/20/2022 8:00:02 PM			
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst: BRM			
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/20/2022 5:39:00 AM			
Surr: BFB	89.1	37.7-212	%Rec	1	5/20/2022 5:39:00 AM			
EPA METHOD 8021B: VOLATILES					Analyst: BRM			
Benzene	ND	0.025	mg/Kg	1	5/20/2022 5:39:00 AM			
Toluene	ND	0.050	mg/Kg	1	5/20/2022 5:39:00 AM			
Ethylbenzene	ND	0.050	mg/Kg	1	5/20/2022 5:39:00 AM			
Xylenes, Total	ND	0.10	mg/Kg	1	5/20/2022 5:39:00 AM			
Surr: 4-Bromofluorobenzene	91.9	70-130	%Rec	1	5/20/2022 5:39:00 AM			
EPA METHOD 300.0: ANIONS					Analyst: CAS			
Chloride	ND	60	mg/Kg	20	5/23/2022 5:02:58 PM			

Matrix: SOIL

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

**Qualifiers:** 

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

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Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

2205815-009

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-03 4' Collection Date: 5/15/2022 9:05:00 AM Received Date: 5/18/2022 8:27:00 AM

<b>Eub ID</b> ( 2205015 00)	Muulin Soll							
Analyses	Result	RL Qu	al Units	DF	Date Analyzed			
EPA METHOD 8015M/D: DIESEL RANGE	E ORGANICS				Analyst: SB			
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/20/2022 8:11:06 PM			
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/20/2022 8:11:06 PM			
Surr: DNOP	93.6	51.1-141	%Rec	1	5/20/2022 8:11:06 PM			
EPA METHOD 8015D: GASOLINE RANG	iΕ				Analyst: BRM			
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 5:59:00 AM			
Surr: BFB	89.7	37.7-212	%Rec	1	5/20/2022 5:59:00 AM			
EPA METHOD 8021B: VOLATILES					Analyst: BRM			
Benzene	ND	0.025	mg/Kg	1	5/20/2022 5:59:00 AM			
Toluene	ND	0.049	mg/Kg	1	5/20/2022 5:59:00 AM			
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 5:59:00 AM			
Xylenes, Total	ND	0.099	mg/Kg	1	5/20/2022 5:59:00 AM			
Surr: 4-Bromofluorobenzene	92.9	70-130	%Rec	1	5/20/2022 5:59:00 AM			
EPA METHOD 300.0: ANIONS					Analyst: CAS			
Chloride	ND	59	mg/Kg	20	5/23/2022 5:40:13 PM			

Matrix: SOIL

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

**Qualifiers:** 

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

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-04 0' Collection Date: 5/15/2022 9:20:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-010	Matrix: SOIL Result	Received Date: 5/18/2022 8:27:00 AM				
Analyses		RL Qua	al Units	DF	Date Analyzed	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB	
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	5/20/2022 8:22:04 PM	
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/20/2022 8:22:04 PM	
Surr: DNOP	81.6	51.1-141	%Rec	1	5/20/2022 8:22:04 PM	
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: BRM	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 6:18:00 AM	
Surr: BFB	89.3	37.7-212	%Rec	1	5/20/2022 6:18:00 AM	
EPA METHOD 8021B: VOLATILES					Analyst: BRM	
Benzene	ND	0.024	mg/Kg	1	5/20/2022 6:18:00 AM	
Toluene	ND	0.049	mg/Kg	1	5/20/2022 6:18:00 AM	
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 6:18:00 AM	
Xylenes, Total	ND	0.097	mg/Kg	1	5/20/2022 6:18:00 AM	
Surr: 4-Bromofluorobenzene	91.2	70-130	%Rec	1	5/20/2022 6:18:00 AM	
EPA METHOD 300.0: ANIONS					Analyst: CAS	
Chloride	ND	60	mg/Kg	20	5/23/2022 5:52:38 PM	

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

**Qualifiers:** 

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

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-04 2' Collection Date: 5/15/2022 9:25:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-011	Matrix: SOIL	Received Date: 5/18/2022 8:27:00 AM				
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyse						
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/20/2022 8:33:16 PM	
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/20/2022 8:33:16 PM	
Surr: DNOP	90.8	51.1-141	%Rec	1	5/20/2022 8:33:16 PM	
EPA METHOD 8015D: GASOLINE RANGE					Analyst: BRM	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 6:38:00 AM	
Surr: BFB	89.6	37.7-212	%Rec	1	5/20/2022 6:38:00 AM	
EPA METHOD 8021B: VOLATILES					Analyst: BRM	
Benzene	ND	0.024	mg/Kg	1	5/20/2022 6:38:00 AM	
Toluene	ND	0.049	mg/Kg	1	5/20/2022 6:38:00 AM	
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 6:38:00 AM	
Xylenes, Total	ND	0.098	mg/Kg	1	5/20/2022 6:38:00 AM	
Surr: 4-Bromofluorobenzene	91.7	70-130	%Rec	1	5/20/2022 6:38:00 AM	
EPA METHOD 300.0: ANIONS					Analyst: CAS	
Chloride	ND	60	mg/Kg	20	5/23/2022 6:05:03 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 Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-04 4' Collection Date: 5/15/2022 9:30:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-012	Matrix: SOIL	Rece	eived Date:	5/18/2	022 8:27:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/20/2022 8:44:24 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/20/2022 8:44:24 PM
Surr: DNOP	87.4	51.1-141	%Rec	1	5/20/2022 8:44:24 PM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/20/2022 6:58:00 AM
Surr: BFB	86.9	37.7-212	%Rec	1	5/20/2022 6:58:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.025	mg/Kg	1	5/20/2022 6:58:00 AM
Toluene	ND	0.050	mg/Kg	1	5/20/2022 6:58:00 AM
Ethylbenzene	ND	0.050	mg/Kg	1	5/20/2022 6:58:00 AM
Xylenes, Total	ND	0.10	mg/Kg	1	5/20/2022 6:58:00 AM
Surr: 4-Bromofluorobenzene	87.0	70-130	%Rec	1	5/20/2022 6:58:00 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	ND	60	mg/Kg	20	5/23/2022 6:17:28 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
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-05 0' Collection Date: 5/15/2022 9:40:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-013	Matrix: SOIL         Received Date: 5/18/2022 8:27:00 AN				022 8:27:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst: SB
Diesel Range Organics (DRO)	4600	190		mg/Kg	20	5/20/2022 8:55:33 PM
Motor Oil Range Organics (MRO)	4600	970		mg/Kg	20	5/20/2022 8:55:33 PM
Surr: DNOP	0	51.1-141	S	%Rec	20	5/20/2022 8:55:33 PM
EPA METHOD 8015D: GASOLINE RANGE	E					Analyst: NSB
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	5/20/2022 9:28:09 AM
Surr: BFB	94.6	37.7-212		%Rec	5	5/20/2022 9:28:09 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/20/2022 9:28:09 AM
Toluene	ND	0.25		mg/Kg	5	5/20/2022 9:28:09 AM
Ethylbenzene	ND	0.25		mg/Kg	5	5/20/2022 9:28:09 AM
Xylenes, Total	ND	0.50		mg/Kg	5	5/20/2022 9:28:09 AM
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	5	5/20/2022 9:28:09 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	5/23/2022 6:29:53 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-05 2' Collection Date: 5/15/2022 9:45:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-014	Matrix: SOIL	Matrix: SOIL         Received Date: 5/18/2022 8:27:00 AM				SOIL         Received Date: 5/18/2022 8:27:00 AM	Iatrix:         SOIL         Received Date: 5/		022 8:27:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed				
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: <b>SB</b>				
Diesel Range Organics (DRO)	73	9.6	mg/Kg	1	5/25/2022 4:15:00 AM				
Motor Oil Range Organics (MRO)	120	48	mg/Kg	1	5/25/2022 4:15:00 AM				
Surr: DNOP	105	51.1-141	%Rec	1	5/25/2022 4:15:00 AM				
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB				
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/20/2022 9:51:34 AM				
Surr: BFB	93.5	37.7-212	%Rec	1	5/20/2022 9:51:34 AM				
EPA METHOD 8021B: VOLATILES					Analyst: NSB				
Benzene	ND	0.025	mg/Kg	1	5/20/2022 9:51:34 AM				
Toluene	ND	0.050	mg/Kg	1	5/20/2022 9:51:34 AM				
Ethylbenzene	ND	0.050	mg/Kg	1	5/20/2022 9:51:34 AM				
Xylenes, Total	ND	0.099	mg/Kg	1	5/20/2022 9:51:34 AM				
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	5/20/2022 9:51:34 AM				
EPA METHOD 300.0: ANIONS					Analyst: CAS				
Chloride	ND	60	mg/Kg	20	5/23/2022 5:26:04 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

2205815-015

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-05 4' Collection Date: 5/15/2022 9:50:00 AM Received Date: 5/18/2022 8:27:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed		
EPA METHOD 8015M/D: DIESEL RANGE O	ORGANICS				Analyst: SB		
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/20/2022 9:17:46 PM		
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/20/2022 9:17:46 PM		
Surr: DNOP	95.2	51.1-141	%Rec	1	5/20/2022 9:17:46 PM		
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB		
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/20/2022 10:15:05 AM		
Surr: BFB	97.7	37.7-212	%Rec	1	5/20/2022 10:15:05 AM		
EPA METHOD 8021B: VOLATILES					Analyst: NSB		
Benzene	ND	0.025	mg/Kg	1	5/20/2022 10:15:05 AM		
Toluene	ND	0.050	mg/Kg	1	5/20/2022 10:15:05 AM		
Ethylbenzene	ND	0.050	mg/Kg	1	5/20/2022 10:15:05 AM		
Xylenes, Total	ND	0.10	mg/Kg	1	5/20/2022 10:15:05 AM		
Surr: 4-Bromofluorobenzene	102	70-130	%Rec	1	5/20/2022 10:15:05 AM		
EPA METHOD 300.0: ANIONS					Analyst: CAS		
Chloride	ND	60	mg/Kg	20	5/23/2022 6:42:17 PM		

Matrix: SOIL

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

**Qualifiers:** 

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

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-06 0' Collection Date: 5/15/2022 10:05:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-016	Matrix: SOIL	SOIL Received Date: 5/18/2022 8:27:00 AM			
Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	5/20/2022 9:28:51 PM
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	5/20/2022 9:28:51 PM
Surr: DNOP	102	51.1-141	%Rec	1	5/20/2022 9:28:51 PM
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 10:38:29 AM
Surr: BFB	96.4	37.7-212	%Rec	1	5/20/2022 10:38:29 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	5/20/2022 10:38:29 AM
Toluene	ND	0.049	mg/Kg	1	5/20/2022 10:38:29 AM
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 10:38:29 AM
Xylenes, Total	ND	0.098	mg/Kg	1	5/20/2022 10:38:29 AM
Surr: 4-Bromofluorobenzene	97.9	70-130	%Rec	1	5/20/2022 10:38:29 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	98	60	mg/Kg	20	5/23/2022 5:38:24 PM

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

**Qualifiers:** 

- Value exceeds Maximum Contaminant Level.
   D Sample Diluted Due to 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 interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-06 2' Collection Date: 5/15/2022 10:10:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-017	Matrix: SOIL         Received Date: 5/18/2022 8:27:00			atrix: SOIL Received Date: 5/18/202		022 8:27:00 AM
Analyses	Result	RL (	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst: SB
Diesel Range Organics (DRO)	120	95		mg/Kg	10	5/20/2022 9:39:57 PM
Motor Oil Range Organics (MRO)	480	470		mg/Kg	10	5/20/2022 9:39:57 PM
Surr: DNOP	0	51.1-141	S	%Rec	10	5/20/2022 9:39:57 PM
EPA METHOD 8015D: GASOLINE RANG	E					Analyst: NSB
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	5/20/2022 11:01:58 AM
Surr: BFB	97.7	37.7-212		%Rec	5	5/20/2022 11:01:58 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/20/2022 11:01:58 AM
Toluene	ND	0.24		mg/Kg	5	5/20/2022 11:01:58 AM
Ethylbenzene	ND	0.24		mg/Kg	5	5/20/2022 11:01:58 AM
Xylenes, Total	ND	0.49		mg/Kg	5	5/20/2022 11:01:58 AM
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	5	5/20/2022 11:01:58 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	5/23/2022 5:50:45 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

2205815-018

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

 Client Sample ID: BH22-06
 4'

 Collection Date: 5/15/2022
 10:15:00 AM

 Matrix: SOIL
 Received Date: 5/18/2022
 8:27:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/20/2022 10:02:20 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/20/2022 10:02:20 PM
Surr: DNOP	95.8	51.1-141	%Rec	1	5/20/2022 10:02:20 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/20/2022 11:25:23 AM
Surr: BFB	95.5	37.7-212	%Rec	1	5/20/2022 11:25:23 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	5/20/2022 11:25:23 AM
Toluene	ND	0.050	mg/Kg	1	5/20/2022 11:25:23 AM
Ethylbenzene	ND	0.050	mg/Kg	1	5/20/2022 11:25:23 AM
Xylenes, Total	ND	0.099	mg/Kg	1	5/20/2022 11:25:23 AM
Surr: 4-Bromofluorobenzene	97.7	70-130	%Rec	1	5/20/2022 11:25:23 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	ND	60	mg/Kg	20	5/23/2022 6:03:06 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-07 0' Collection Date: 5/15/2022 10:25:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-019	Matrix:         SOIL         Received Date: 5/18/2022 8:27:00 A				022 8:27:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/20/2022 10:13:32 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/20/2022 10:13:32 PM
Surr: DNOP	85.0	51.1-141	%Rec	1	5/20/2022 10:13:32 PM
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/20/2022 11:49:05 AM
Surr: BFB	96.5	37.7-212	%Rec	1	5/20/2022 11:49:05 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	5/20/2022 11:49:05 AM
Toluene	ND	0.050	mg/Kg	1	5/20/2022 11:49:05 AM
Ethylbenzene	ND	0.050	mg/Kg	1	5/20/2022 11:49:05 AM
Xylenes, Total	ND	0.10	mg/Kg	1	5/20/2022 11:49:05 AM
Surr: 4-Bromofluorobenzene	99.3	70-130	%Rec	1	5/20/2022 11:49:05 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	ND	60	mg/Kg	20	5/23/2022 6:40:08 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Lab ID:

**Analytical Report** Lab Order 2205815

Date Reported: 5/26/2022

5/20/2022 12:12:38 PM 5/20/2022 12:12:38 PM 5/20/2022 12:12:38 PM

5/23/2022 6:52:30 PM

Analyst: CAS

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-07 2' Tomcat 17 Federal 001 Collection Date: 5/15/2022 10:30:00 AM 2205815-020 Matrix: SOIL Received Date: 5/18/2022 8:27:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: SB **Diesel Range Organics (DRO)** 230 9.1 mg/Kg 1 5/20/2022 10:24:41 PM Motor Oil Range Organics (MRO) 140 46 mg/Kg 1 5/20/2022 10:24:41 PM Surr: DNOP 90.0 51.1-141 %Rec 1 5/20/2022 10:24:41 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 5/20/2022 12:12:38 PM 5.0 mg/Kg 1 Surr: BFB 98.7 37.7-212 %Rec 1 5/20/2022 12:12:38 PM **EPA METHOD 8021B: VOLATILES** Analyst: NSB ND 0.025 Renzene ma/Ka 5/20/2022 12:12:38 PM 1 5/20/2022 12:12:38 PM

Benzene		0.020	ing/itg		
Toluene	ND	0.050	mg/Kg	1	
Ethylbenzene	ND	0.050	mg/Kg	1	
Xylenes, Total	ND	0.099	mg/Kg	1	
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	
EPA METHOD 300.0: ANIONS					
Chloride	ND	60	mg/Kg	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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 3/13/2024 10:44:45 AM

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-07 4' Collection Date: 5/15/2022 10:35:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-021	Matrix:         SOIL         Received Date: 5/18/2022 8:27:				022 8:27:00 AM
Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/20/2022 11:53:27 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/20/2022 11:53:27 PM
Surr: DNOP	84.6	51.1-141	%Rec	1	5/20/2022 11:53:27 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/20/2022 11:54:00 AM
Surr: BFB	91.4	37.7-212	%Rec	1	5/20/2022 11:54:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.024	mg/Kg	1	5/20/2022 11:54:00 AM
Toluene	ND	0.048	mg/Kg	1	5/20/2022 11:54:00 AM
Ethylbenzene	ND	0.048	mg/Kg	1	5/20/2022 11:54:00 AM
Xylenes, Total	ND	0.097	mg/Kg	1	5/20/2022 11:54:00 AM
Surr: 4-Bromofluorobenzene	92.6	70-130	%Rec	1	5/20/2022 11:54:00 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	ND	61	mg/Kg	20	5/23/2022 7:29:31 PM

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

**Qualifiers:** 

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

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-08 0' Collection Date: 5/15/2022 10:40:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-022	Matrix: SOIL	Rece	ived Date:	5/18/2	022 8:27:00 AM
Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/21/2022 12:26:37 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/21/2022 12:26:37 AM
Surr: DNOP	90.4	51.1-141	%Rec	1	5/21/2022 12:26:37 AM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 12:53:00 PM
Surr: BFB	89.7	37.7-212	%Rec	1	5/20/2022 12:53:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.024	mg/Kg	1	5/20/2022 12:53:00 PM
Toluene	ND	0.049	mg/Kg	1	5/20/2022 12:53:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 12:53:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	5/20/2022 12:53:00 PM
Surr: 4-Bromofluorobenzene	88.9	70-130	%Rec	1	5/20/2022 12:53:00 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	560	60	mg/Kg	20	5/23/2022 7:41:52 PM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

2205815-023

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-08 2' Collection Date: 5/15/2022 10:45:00 AM Received Date: 5/18/2022 8:27:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/21/2022 12:37:39 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/21/2022 12:37:39 AM
Surr: DNOP	90.2	51.1-141	%Rec	1	5/21/2022 12:37:39 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/20/2022 1:52:00 PM
Surr: BFB	87.1	37.7-212	%Rec	1	5/20/2022 1:52:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.024	mg/Kg	1	5/20/2022 1:52:00 PM
Toluene	ND	0.048	mg/Kg	1	5/20/2022 1:52:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	5/20/2022 1:52:00 PM
Xylenes, Total	ND	0.095	mg/Kg	1	5/20/2022 1:52:00 PM
Surr: 4-Bromofluorobenzene	89.4	70-130	%Rec	1	5/20/2022 1:52:00 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	400	60	mg/Kg	20	5/23/2022 7:54:14 PM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report Lab Order 2205815

Date Reported: 5/26/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-08 4' Collection Date: 5/15/2022 10:50:00 AM Received Date: 5/18/2022 8:27:00 AM

Lab ID: 2205815-024	Matrix: SOIL	Rec	eived Date:	5/18/2	022 8:27:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/21/2022 12:48:41 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/21/2022 12:48:41 AM
Surr: DNOP	94.0	51.1-141	%Rec	1	5/21/2022 12:48:41 AM
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/20/2022 2:12:00 PM
Surr: BFB	94.1	37.7-212	%Rec	1	5/20/2022 2:12:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.024	mg/Kg	1	5/20/2022 2:12:00 PM
Toluene	ND	0.049	mg/Kg	1	5/20/2022 2:12:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	5/20/2022 2:12:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	5/20/2022 2:12:00 PM
Surr: 4-Bromofluorobenzene	89.9	70-130	%Rec	1	5/20/2022 2:12:00 PM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	1900	60	mg/Kg	20	5/23/2022 8:06:35 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Client: Project:		Resources Services, Inc. t 17 Federal 001			
Sample ID:	MB-67621	SampType: <b>mblk</b>	TestCode: EPA Method	300.0: Anions	
Client ID:	PBS	Batch ID: 67621	RunNo: 88218		
Prep Date:	5/23/2022	Analysis Date: 5/23/2022	SeqNo: 3127932	Units: <b>mg/Kg</b>	
Analyte Chloride		Result PQL SPK value ND 1.5	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Sample ID:	LCS-67621	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Client ID:	LCSS	Batch ID: 67621	RunNo: 88218		
Prep Date:	5/23/2022	Analysis Date: 5/23/2022	SeqNo: 3127933	Units: <b>mg/Kg</b>	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride		14 1.5 15.00	0 94.6 90	110	
Sample ID:	MB-67624	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID:	PBS	Batch ID: 67624	RunNo: 88218		
Prep Date:	5/23/2022	Analysis Date: 5/23/2022	SeqNo: 3127935	Units: mg/Kg	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride		ND 1.5			
Sample ID:	LCS-67624	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Client ID:	LCSS	Batch ID: 67624	RunNo: 88218		
Prep Date:	5/23/2022	Analysis Date: 5/23/2022	SeqNo: 3127936	Units: <b>mg/Kg</b>	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride		14 1.5 15.00	0 92.9 90	110	
Sample ID:	MB-67621	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID:	PBS	Batch ID: 67621	RunNo: 88201		
Prep Date:	5/23/2022	Analysis Date: 5/23/2022	SeqNo: 3128092	Units: <b>mg/Kg</b>	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride		ND 1.5			
Sample ID:	LCS-67621	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Client ID:	LCSS	Batch ID: 67621	RunNo: 88201		
Prep Date:	5/23/2022	Analysis Date: 5/23/2022	SeqNo: 3128093	Units: mg/Kg	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride		14 1.5 15.00	0 94.9 90	110	

Qualifiers:

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

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2205815

26-May-22

Client: Project:		x Resources Se at 17 Federal 0		, Inc.							
Sample ID:	MB-67624	SampTy	/pe: <b>m</b> k	olk	Tes	tCode: EF	PA Method	300.0: Anion	S		
Client ID:	PBS	Batch	ID: 67	624	F	RunNo: <b>8</b>	8201				
Prep Date:	5/23/2022	Analysis Da	ate: 5/	23/2022	5	SeqNo: 3	128094	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID:	LCS-67624	SampTy	/pe: Ics	5	Tes	tCode: EF	PA Method	300.0: Anion	S		
Client ID:	LCSS	Batch	ID: 67	624	F	RunNo: <b>8</b>	8201				
Prep Date:	5/23/2022	Analysis Da	ate: 5/	23/2022	S	SeqNo: 3	128095	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2205815

26-May-22

Client: Project:		esources S 7 Federal (		Inc.							
Sample ID:	2205815-001AMS	SampT	ype: <b>MS</b>	6	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	BH22-01 0'	Batch	n ID: 67	573	F	RunNo: <b>8</b>	8170				
Prep Date:	5/19/2022	Analysis D	ate: 5/	20/2022	S	SeqNo: 3	126848	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Drganics (DRO)	62	9.7	48.31	47.13	30.8	36.1	154			S
Surr: DNOP		3.6		4.831		74.2	51.1	141			
Sample ID:	2205815-001AMSE	SampT	ype: <b>MS</b>	SD	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	BH22-01 0'	Batch	n ID: 67	573	F	RunNo: <b>8</b>	8170				
Prep Date:	5/19/2022	Analysis D	ate: 5/	20/2022	S	SeqNo: 3	126849	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	70	10	50.10	47.13	45.6	36.1	154	12.1	33.9	
Surr: DNOP		3.7		5.010		74.2	51.1	141	0	0	
Sample ID:	2205815-021AMS	SampT	ype: MS	3	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	BH22-07 4'	Batch	n ID: 67	574	F	RunNo: <b>8</b>	8170				
Prep Date:	5/19/2022	Analysis D	ate: 5/	21/2022	S	SeqNo: 3	126870	Units: mg/K	ſg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	51	9.4	47.13	0	108	36.1	154			
Surr: DNOP		4.2		4.713		89.4	51.1	141			
Sample ID:	2205815-021AMSE	) SampT	ype: <b>MS</b>	SD.	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	BH22-07 4'	Batch	n ID: 67	574	F	RunNo: <b>8</b>	8170				
Prep Date:	5/19/2022	Analysis D	ate: 5/	21/2022	5	SeqNo: 3	126871	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	38	8.4	42.12	0	89.7	36.1	154	29.9	33.9	
Surr: DNOP		3.6		4.212		84.9	51.1	141	0	0	
Sample ID:	LCS-67548	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	LCSS	Batch	n ID: 67	548	F	RunNo: <b>8</b>	8170				
Prep Date:	5/19/2022	Analysis D	ate: 5/	20/2022	S	SeqNo: 3	126893	Units: %Red	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		5.0		5.000		101	51.1	141			
Sample ID:	LCS-67573	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	LCSS	Batch	n ID: 67	573	F	RunNo: <b>8</b>	8170				
Prep Date:	5/19/2022	Analysis D	ate: 5/	20/2022	S	SeqNo: 3	126894	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	84.8	64.4	127			

Qualifiers:

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ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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	Resources Services, Inc. 17 Federal 001			
Sample ID: LCS-67573	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: LCSS	Batch ID: 67573	RunNo: 88170		
Prep Date: 5/19/2022	Analysis Date: 5/20/2022	SeqNo: 3126894	Units: <b>mg/Kg</b>	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Surr: DNOP	4.2 5.000	84.9 51.1	141	
Sample ID: LCS-67574	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: LCSS	Batch ID: 67574	RunNo: 88170		
Prep Date: 5/19/2022	Analysis Date: 5/20/2022	SeqNo: 3126895	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Diesel Range Organics (DRO)	40 10 50.00	0 80.6 64.4	127	
Surr: DNOP	4.6 5.000	91.5 51.1	141	
Sample ID: MB-67548	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: PBS	Batch ID: 67548	RunNo: 88170		
Prep Date: 5/19/2022	Analysis Date: 5/20/2022	SeqNo: 3126897	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Surr: DNOP	11 10.00	112 51.1	141	
Sample ID: MB-67573	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range	organics
Client ID: PBS	Batch ID: 67573	RunNo: 88170		
Prep Date: 5/19/2022	Analysis Date: 5/20/2022	SeqNo: 3126898	Units: <b>mg/Kg</b>	
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) Surr: DNOP	ND 50 9.2 10.00	91.6 51.1	141	
	9.2 10.00	91.0 51.1	141	
Sample ID: MB-67574	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: PBS	Batch ID: 67574	RunNo: 88170		
Prep Date: 5/19/2022	Analysis Date: 5/20/2022	SeqNo: 3126899	Units: mg/Kg	
Analyte		SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Diesel Range Organics (DRO)	ND 10			
Motor Oil Range Organics (MRO) Surr: DNOP	ND 50 10 10.00	103 51.1	141	

### Qualifiers:

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

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	esources Services, Inc. 7 Federal 001			
Sample ID: mb-67550	SampType: <b>MBLK</b>	TestCode: EDA Mathad	8015D: Gasoline Range	
Client ID: PBS	Batch ID: 67550	RunNo: 88115	ourse. Casonne Kange	
Prep Date: 5/18/2022	Analysis Date: 5/20/2022	SeqNo: 3124685	Units: <b>mg/Kg</b>	
		·		Qual
Analyte Gasoline Range Organics (GRO)	Result PQL SPK value ND 5.0	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Surr: BFB	970 1000	97.4 37.7	212	
Sample ID: Ics-67550	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 67550	RunNo: 88115		
Prep Date: 5/18/2022	Analysis Date: 5/19/2022	SeqNo: 3124686	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	0 109 72.3	137	
Surr: BFB	2100 1000	212 37.7	212	S
Sample ID: 2205815-001ams	SampType: <b>MS</b>	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: BH22-01 0'	Batch ID: 67550	RunNo: 88115		
Prep Date: 5/18/2022	Analysis Date: 5/20/2022	SeqNo: 3124688	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Gasoline Range Organics (GRO)	30 4.9 24.37	0 122 70	130	
Surr: BFB	2200 974.7	223 37.7	212	S
Sample ID: Ics-67545	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 67545	RunNo: 88144		
Prep Date: 5/18/2022	Analysis Date: 5/19/2022	SeqNo: 3124750	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Surr: BFB	1900 1000	191 37.7	212	
Sample ID: mb-67545	SampType: MBLK	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: PBS	Batch ID: 67545	RunNo: 88144		
Prep Date: 5/18/2022	Analysis Date: 5/19/2022	SeqNo: 3124752	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Surr: BFB	910 1000	90.6 37.7	212	
Sample ID: Ics-67570	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 67570	RunNo: 88180	-	
Prep Date: 5/19/2022	Analysis Date: 5/20/2022	SeqNo: 3125949	Units: <b>mg/Kg</b>	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Gasoline Range Organics (GRO)	25 5.0 25.00	0 102 72.3	137	
Surr: BFB	2000 1000	200 37.7	212	

Qualifiers:

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D Sample Diluted Due to Matrix

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ND Not Detected at the Reporting Limit

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- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Client: Project:		esources Sei 7 Federal 00		, Inc.							
Sample ID:	mb-67570	SampTy	be: MI	BLK	Test	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID:	PBS	Batch I	D: 67	570	R	unNo: 8	8180				
Prep Date:	5/19/2022	Analysis Da	te: 5/	/20/2022	S	eqNo: 3	125950	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	e Organics (GRO)	ND 910	5.0	1000		91.2	37.7	212			
Sample ID:	2205815-021ams	SampTy	be: MS	S	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID:	BH22-07 4'	Batch I	D: 67	570	R	unNo: 8	8180				
Prep Date:	5/19/2022	Analysis Da	te: 5/	/20/2022	S	eqNo: 3	125952	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
-	e Organics (GRO)	25	4.8	23.88	0	106	70	130			
Surr: BFB		2000		955.1		205	37.7	212			
Sample ID:	2205815-021amsd	I SampTy	be: MS	SD	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID:	BH22-07 4'	Batch I	D: 67	570	R	unNo: 8	8180				
Prep Date:	5/19/2022	Analysis Da	te: 5/	/20/2022	S	eqNo: 3	125953	Units: mg/k	٤g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	je Organics (GRO)	26	4.8	24.15	0	106	70	130	1.76	20	
Surr: BFB		2000		966.2		204	37.7	212	0	0	
Sample ID:	2205815-001amsd	l SampTy	be: MS	SD	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID:	BH22-01 0'	Batch I	D: 67	550	R	unNo: 8	8181				
Prep Date:	5/18/2022	Analysis Da	te: 5/	/20/2022	S	eqNo: 3	125975	Units: mg/k	٤g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	29	5.0	24.80	0	118	70	130	1.93	20	
Surr: BFB		2200		992.1		220	37.7	212	0	0	S

### Qualifiers:

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

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	esources S 7 Federal		Inc.							
Sample ID: mb-67550	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	n ID: 67	550	F	RunNo: 8	8115				
Prep Date: 5/18/2022	Analysis D	Date: 5/	20/2022	S	SeqNo: 3	124799	Units: <b>mg/K</b>	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	1.0		1.000		100	70	130			
Sample ID: LCS-67550	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch	n ID: 67	550	F	RunNo: <b>8</b>	8115				
Prep Date: 5/18/2022	Analysis D	Date: 5/	20/2022	S	SeqNo: 3	124807	Units: <b>mg/K</b>	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.4	80	120			
Toluene	0.98	0.050	1.000	0	98.0	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.4	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			
Sample ID: Ics-67545	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch	n ID: 67	545	F	RunNo: 8	8144				
Prep Date: 5/18/2022	Analysis D	Date: 5/	19/2022	S	SeqNo: 3	124827	Units: %Re	•		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.89		1.000		89.4	70	130			
Sample ID: mb-67545	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	n ID: 67	545	F	RunNo: 8	8144				
Prep Date: 5/18/2022	Analysis D	Date: 5/	19/2022	S	SeqNo: 3	124828	Units: %Re	•		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.90		1.000		89.7	70	130			
Sample ID: 2205815-002ams	SampT	ype: <b>M</b> S	6	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: BH22-01 2'		n ID: 67			RunNo: <b>8</b>					
Prep Date: 5/18/2022	Analysis D				SeqNo: 3		Units: mg/K	g		
					%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result	PQL	SPK value	SPK Kel val						Quai
Analyte Benzene	Result 0.98	PQL 0.025	SPK value 0.9940	O O	98.1	68.8	120	70111 D		Quai
								/0111 D		Quai
Benzene	0.98	0.025	0.9940	0	98.1	68.8	120			Quai

### Qualifiers:

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D Sample Diluted Due to Matrix

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ND Not Detected at the Reporting Limit

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S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

2205815

26-May-22

Client:Vertex ResoProject:Tomcat 17			Inc.							
Sample ID: 2205815-002ams	SampTyp	e: MS		Test	Code: EF	PA Method	8021B: Volat	iles		
Client ID: BH22-01 2'	Batch II	D: 675	50	R	unNo: <b>88</b>	8115				
Prep Date: 5/18/2022 A	Analysis Dat	e: 5/2	20/2022	S	eqNo: 31	124836	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		0.9940		103	70	130			
Sample ID: 2205815-002amsd	SampTyp	e: MS	D	Test	Code: EF	PA Method	8021B: Volat	iles		
Client ID: BH22-01 2'	Batch II	D: 675	50	R	unNo: 88	8115				
Prep Date: 5/18/2022 A	Analysis Dat	e: 5/2	20/2022	S	eqNo: 31	124848	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0 (	0.025	0.9970	0	102	68.8	120	3.78	20	
Toluene	1.1 (	0.050	0.9970	0	106	73.6	124	4.84	20	
Ethylbenzene		0.050	0.9970	0	107	72.7	129	5.72	20	
Xylenes, Total	3.2	0.10	2.991	0	108	75.7	126	4.51	20	
Surr: 4-Bromofluorobenzene	1.0		0.9970		103	70	130	0	0	
Sample ID: Ics-67570	SampTyp	e: LC	S	Test	Code: EF	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch II	D: 675	570	R	unNo: <b>88</b>	8180				
Prep Date: 5/19/2022 A	Analysis Dat	e: <b>5/2</b>	20/2022	S	eqNo: 31	125984	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	96.3	80	120			
Toluene	0.97 (	0.050	1.000	0	97.1	80	120			
Ethylbenzene	0.97 (	0.050	1.000	0	96.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.4	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.2	70	130			
Sample ID: mb-67570	SampTyp	e: MB	LK	Test	Code: EF	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch II	D: 675	570	R	unNo: 88	8180				
Prep Date: 5/19/2022 A	Analysis Dat	e: <b>5/2</b>	20/2022	S	eqNo: 31	125985	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	0.91		1.000		91.1	70	130			
Sample ID: 2205815-022ams	SampTyp	e: MS		Test	Code: EF	PA Method	8021B: Volat	iles		
Client ID: BH22-08 0'	Batch II	D: 675	570	R	unNo: 88	8180				
Prep Date: 5/19/2022 A	Analysis Dat	e: 5/2	20/2022	S	eqNo: 31	125988	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:** 

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D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

- % Recovery outside of range due to dilution or matrix interference S
- Analyte detected in the associated Method Blank в

Е Estimated value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 32 of 33

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26-May-22

**Client:** 

**Project:** 

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Sample ID: 2205815-022ams	SampT	ype: <b>MS</b>	5	Tes	tCode: EF	PA Method	8021B: Vola	tiles		
Client ID: BH22-08 0'	Batch	n ID: 67	570	F	RunNo: <b>8</b>	8180				
Prep Date: 5/19/2022	Analysis D	0ate: <b>5/</b> 2	20/2022	S	SeqNo: 3	125988	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.024	0.9747	0	97.2	68.8	120			
Toluene	0.97	0.049	0.9747	0	99.3	73.6	124			
Ethylbenzene	0.98	0.049	0.9747	0	100	72.7	129			
Xylenes, Total	2.9	0.097	2.924	0	99.1	75.7	126			
Surr: 4-Bromofluorobenzene	0.88		0.9747		89.8	70	130			
Sample ID: 2205815-022amsd Client ID: BH22-08 0'	•	ype: <b>MS</b> n ID: <b>67</b>			tCode: Ef		8021B: Vola	tiles		
	•	n ID: 67:	570	F		8180	8021B: Vola Units: mg/k			
Client ID: BH22-08 0'	Batch	n ID: 67:	570 20/2022	F	RunNo: <b>8</b>	8180			RPDLimit	Qual
Client ID: BH22-08 0' Prep Date: 5/19/2022	Batch Analysis D	n ID: 67: Date: 5/	570 20/2022	ਜ 2	RunNo: <b>8</b> SeqNo: <b>3</b>	8180 125989	Units: <b>mg/k</b>	(g	RPDLimit 20	Qual
Client ID: BH22-08 0' Prep Date: 5/19/2022 Analyte	Batch Analysis D Result	n ID: 67: Date: 5/2 PQL	570 20/2022 SPK value	F S SPK Ref Val	RunNo: 88 SeqNo: 3 %REC	8180 125989 LowLimit	Units: <b>mg/F</b> HighLimit	<b>(g</b> %RPD		Qual
Client ID: BH22-08 0' Prep Date: 5/19/2022 Analyte Benzene	Batch Analysis D Result 0.96	n ID: 67 Date: 5/2 PQL 0.024	570 20/2022 SPK value 0.9690	F S SPK Ref Val 0	RunNo: <b>88</b> SeqNo: <b>3</b> %REC 99.2	8180 125989 LowLimit 68.8	Units: <b>mg/k</b> HighLimit 120	<b>(g</b> <u>%RPD</u> 1.43	20	Qual
Client ID: BH22-08 0' Prep Date: 5/19/2022 Analyte Benzene Toluene	Batch Analysis D Result 0.96 0.97	Date: <b>5</b> / PQL 0.024 0.048	570 20/2022 SPK value 0.9690 0.9690	F S SPK Ref Val 0 0	RunNo: <b>88</b> SeqNo: <b>3</b> %REC 99.2 100	8180 125989 LowLimit 68.8 73.6	Units: <b>mg/k</b> HighLimit 120 124	<b>5g</b> %RPD 1.43 0.434	20 20	Qual
Client ID: BH22-08 0' Prep Date: 5/19/2022 Analyte Benzene Toluene Ethylbenzene	Batch Analysis D Result 0.96 0.97 0.99	Date: <b>5</b> /2 PQL 0.024 0.048 0.048	570 20/2022 SPK value 0.9690 0.9690 0.9690	F S SPK Ref Val 0 0 0	RunNo: <b>8</b> SeqNo: <b>3</b> <u>%REC</u> 99.2 100 102	8180 125989 LowLimit 68.8 73.6 72.7	Units: <b>mg/k</b> HighLimit 120 124 129	<b>5g</b> %RPD 1.43 0.434 1.64	20 20 20	Qual

Qualifiers:

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

Page 33 of 33

WO#: 2205815

26-May-22

HALL ENVIR ANALY	2/2024 1:36:40 PM Onmental (Sis Ratory	TEL: 505	ronmental Anal 49 Albuquer -345-3975 FAX e: www.hallenv	01 Hawk que, NM • 505-345	ins NE 87109 5-4107	San	nple Log-In Ch	Page 131 eck List
Client Name:	Vertex Resources Services, Inc.	Work Orde	Number: 220	5815			RcptNo: 1	
Received By:	Joseph Alderette	5/18/2022 8:2	27:00 AM		u.H			
Completed By: Reviewed By:	Desiree Dominguez	5/18/2022 10 5/18/こく	:44:08 AM		P	N		
Chain of Cust	todv			\$				
1. Is Chain of Cu	and the second se		Yes	~	No		Not Present	
2. How was the s	sample delivered?		Cou	rier				
Log In 3. Was an attemp	pt made to cool the sample	s?	Yes		No			
4. Were all samp	les received at a temperatu	re of >0° C to 6.0°	°C Yes		No			
	roper container(s)?		Yes		No			
6. Sufficient same	ble volume for indicated tes	t(s)?	Yes	~	No [	-		
	except VOA and ONG) prop		Yes		No [	1.0		
	ve added to bottles?		Yes		No		NA 🗌	
9. Received at lea	ast 1 vial with headspace <1	/4" for AQ VOA?	Yes		No [			
10. Were any sam	ple containers received bro	ken?	Yes		No	✓	# of preserved bottles checked	5/18/2
	k match bottle labels? ncies on chain of custody)		Yes	~	No [		for pH:	2 unless noted)
2. Are matrices co	prrectly identified on Chain	of Custody?	Yes	~	No [		Adjusted?	
3. Is it clear what	analyses were requested?		Yes	~	No [			
	g times able to be met? stomer for authorization.)		Yes		No [		Checked by:	
Special Handlin	ng (if applicable)							
15. Was client noti	fied of all discrepancies wit	h this order?	Yes		No		NA 🗹	
Person N	lotified:		Date:			_		
By Whon	n:		Via: 🗌 eM	ail 🗌 I	Phone	Fax	In Person	
Regardin Client Ins	g: structions:					_		
16. Additional rem								
17. <u>Cooler Inform</u> Cooler No 1	the second se	Seal Intact Seal	No Seal D	ate	Signed B	у		

Page 1 of 1

Client: Mr.	titte Verlex	K Standard	Rush	5 Dark			HALL	ENVI	I ABO	HALL ENVIRONMENTAL	ived by
C	Deview)	Project Name:	1								1.1
Mailing Address:		Tomest 1	7 Feder	Aderal # MOI	49	4901 Hawkins NE	. 9	Albuquer	Albuquerque, NM 87109	109	): 3/1
		Project #:			Ĕ	Tel. 505-345-3975	10	Fax 50	505-345-4107		2/20
Phone #:		116-0	LT-81870				An	Analysis R	Request		24 1
email or Fax#:		Project Mana	ger:		1000				(t)		:36
QA/QC Package:		MONNY PODDIN	Perport		-	s,8		)S '*	uəsc		:40
□ Standard	Level 4 (Full Validation)	100	11111-1		1.00	ЪС		ОЧ	IA\tr		PM
	Az Compliance	Ľ	L. Pullman		- 14 J	-			1.1		
	Other	On Ice:	LT Yes	ON D	12.1	10	S		-		
EDD (Type)		# of Coolers:	1				elete				
		Cooler Temp(including CF):	including CF): 5.5	5-0555 (°C)	TM	14	əM 8	(AO			
Date Time Matrix	ix Sample Name	Container Tvpe and #	Preservative Tvpe	HEAL No.	\ XЭТЕ 08:Н91	9 1808 M) 803	d eHA 3 AADS	3560 (V 3560 (V 21' F, E	2) 0728 Otal Co		
KIST OTESIS				- 001	1	1	1	3	311-1		
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1 08:10 1	8422-01 0'	•		hoo-	-						
51:30	KHID-CU J'			-005							
02:30	BH22-00 4			-006							
55:80	(0 EQUINOS 0)			±00-							
09:00	RH22-03 2'			-008							
50:60	R#20-03 41			-009		-					
07-60	BHJQ-04 0'			-010							
2010	1			110-				-			
08.80	RHAD-OH 41	X		210-	1 2		2				
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Client: Verlex	X		」 Standard	d k Rush	h 50ml		$\mathbf{H}$	Ē	ANAL	VST.	VIR	AALL ENVIRONMENTAL	TAL
(Tedma)	-		Project Name:					ł			ר מ	ADORA	
Mailing Address:			Tomont	17 Redow	7 Redound # 001		4901 Hawkins NF	W	ww.nal	www.hallenvironmental.com	Imenta	environmental.com	
			Project #:			-	Tel 50	15-345	3076	hnniv	enhiar	, INIVI 0/ 103	
Phone #:			N CRYAN	IT NOS	716-01818-27		10.0	1 0100-040-000 101	A A	Analysis	Request	rax ouo-345-4107 ysis Request	
email or Fax#:			Project Manager	ager:		-	(C			⁺C		(1u	
QA/QC Package:		Level 4 (Full Validation)		fequin				37415		05 <sup>Ԡ</sup> Od		n92dA\	
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			Cooler Temp(including CF):	D(including CF): 5.	5-0= 5.5 (°C	ITM			ЭM	_		lifori	
Date Time M	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX /	.08:H9T ∋9 1808	W) 803	AHAS	8260 (V	S) 0728	o listo l	
S-Balloging S	SON	8770-05 01	IJan		-013	1	-		1	1	1		
5-15-20 09:45 5	19	RHID-OG J'	1 Jair		-014	-	~			X			
5-15-20 09:50 5	Sil	14 50-CEHA	1 Jar		-01S	XX	2			X			
1 10:05		BH22-00, 01	-		- 016	-							
1 10:10		1° 30-1818			±10-			$\vdash$					
10% 10%		BH22-06 41			-018								
25,00		8420-07 01			- 019								
05:01		BH20-07 2'			-020			-					
58:01					-021								
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24:01		RHOLOGY 21	4		560-								
10:50	V	RHD2-08 41	7		heo-	A	2		É	1			
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90 12:00	SIG	PULLAN	QAMAAN	and a	\$17/22 900								
5 VIII Time: Re	Relinquished by $\int A_{V_1} + \frac{1}{2}$	ed by:	Received by:	Via: V Cour: el	Date Time 5.1827 8:27								



August 30, 2022

Kent Stallings Vertex Resources Services, Inc. 3101 Boyd Drive Carlsbad, NM 88220 TEL: (505) 506-0040 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Tomcat 17 Fed 1

OrderNo.: 2208929

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 16 sample(s) on 8/16/2022 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-01 Oft **Project:** Tomcat 17 Fed 1 Collection Date: 8/10/2022 9:10:00 AM Lab ID: 2208929-001 Matrix: SOIL Received Date: 8/16/2022 7:25:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** 330 27 mg/Kg 2 8/23/2022 4:00:05 PM Motor Oil Range Organics (MRO) 2 440 92 mg/Kg 8/23/2022 4:00:05 PM 21-129 Surr: DNOP 75.9 %Rec 2 8/23/2022 4:00:05 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 8/19/2022 3:45:10 AM 4.9 mg/Kg 1 Surr: BFB 99.3 37.7-212 %Rec 1 8/19/2022 3:45:10 AM **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.025 8/19/2022 3:45:10 AM mg/Kg 1 Toluene ND 0.049 mg/Kg 1 8/19/2022 3:45:10 AM Ethylbenzene ND 0.049 mg/Kg 1 8/19/2022 3:45:10 AM

#### Xylenes, Total ND 0.098 mg/Kg 1 8/19/2022 3:45:10 AM Surr: 4-Bromofluorobenzene 95.1 70-130 %Rec 1 8/19/2022 3:45:10 AM **EPA METHOD 300.0: ANIONS** Analyst: JTT mg/Kg Chloride 8/19/2022 10:20:37 PM ND 60 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 23

Lab ID:

Analyses

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

2208929-002

Analytical Report
Lab Order 2208929

Date Reported: 8/30/2022

### Hall Environmental Analysis Laboratory, Inc.

 Client Sample ID: BH22-01 2ft

 Collection Date: 8/10/2022 9:20:00 AM

 Matrix: SOIL
 Received Date: 8/16/2022 7:25:00 AM

 Result
 RL Qual Units DF Date Analyzed

 ORGANICS

Diesel Range Organics (DRO)       310       29       mg/Kg       2       8/23/2022 4:21:3         Motor Oil Range Organics (MRO)       420       98       mg/Kg       2       8/23/2022 4:21:3         Surr: DNOP       65.2       21-129       %Rec       2       8/23/2022 4:21:3         EPA METHOD 8015D: GASOLINE RANGE       Analyst         Gasoline Range Organics (GRO)       ND       4.9       mg/Kg       1       8/19/2022 4:08:3         Surr: BFB       96.5       37.7-212       %Rec       1       8/19/2022 4:08:3         Benzene       ND       0.025       mg/Kg       1       8/19/2022 4:08:3         Toluene       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Kthylbenzene       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Xylenes, Total       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Surr: 4-Bromofluorobenzene       92.8       70-130       %Rec       1       8/19/2022 4:08:3         Benzene       ND       0.098       mg/Kg       1       8/19/2022 4:08:3       3         Toluene       ND       0.098       mg/Kg       1       8/19/2022 4:08:3       3     <						
Motor Oil Range Organics (MRO)         420         98         mg/Kg         2         8/23/2022 4:21:3           Surr: DNOP         65.2         21-129         %Rec         2         8/23/2022 4:21:3           EPA METHOD 8015D: GASOLINE RANGE         Analyst           Gasoline Range Organics (GRO)         ND         4.9         mg/Kg         1         8/19/2022 4:08:3           Surr: BFB         96.5         37.7-212         %Rec         1         8/19/2022 4:08:3           Benzene         ND         0.025         mg/Kg         1         8/19/2022 4:08:3           Toluene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Ethylbenzene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Xylenes, Total         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Surr: 4-Bromofluorobenzene         92.8         70-130         mg/Kg         1         8/19/2022 4:08:3           EPA METHOD 300.0: ANIONS         Yulenes         Yulenes         Yulenes         1         8/19/2022 4:08:3	EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: DGH
Surr: DNOP       65.2       21-129       %Rec       2       8/23/2022 4:21:3         EPA METHOD 8015D: GASOLINE RANGE       Analyst         Gasoline Range Organics (GRO)       ND       4.9       mg/Kg       1       8/19/2022 4:08:3         Gasoline Range Organics (GRO)       ND       4.9       mg/Kg       1       8/19/2022 4:08:3         Surr: BFB       96.5       37.7-212       %Rec       1       8/19/2022 4:08:3         EPA METHOD 8021B: VOLATILES       Analyst         Benzene       ND       0.025       mg/Kg       1       8/19/2022 4:08:3         Toluene       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Ethylbenzene       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Xylenes, Total       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Surr: 4-Bromofluorobenzene       92.8       70-130       %Rec       1       8/19/2022 4:08:3         EPA METHOD 300.0: ANIONS       Analyst	Diesel Range Organics (DRO)	310	29	mg/Kg	2	8/23/2022 4:21:37 PM
EPA METHOD 8015D: GASOLINE RANGE         Analyst           Gasoline Range Organics (GRO)         ND         4.9         mg/Kg         1         8/19/2022 4:08:3         3           Surr: BFB         96.5         37.7-212         %Rec         1         8/19/2022 4:08:3         3           EPA METHOD 8021B: VOLATILES         Toluene         ND         0.025         mg/Kg         1         8/19/2022 4:08:3         3           Benzene         ND         0.025         mg/Kg         1         8/19/2022 4:08:3         3           Toluene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3         3           Ethylbenzene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3         3           Xylenes, Total         ND         0.049         mg/Kg         1         8/19/2022 4:08:3         3           Surr: 4-Bromofluorobenzene         92.8         70-130         %Rec         1         8/19/2022 4:08:3         3           EPA METHOD 300.0: ANIONS         92.8         70-130         %Rec         1         8/19/2022 4:08:3         3	Motor Oil Range Organics (MRO)	420	98	mg/Kg	2	8/23/2022 4:21:37 PM
Gasoline Range Organics (GRO)       ND       4.9       mg/Kg       1       8/19/2022 4:08:3         Surr: BFB       96.5       37.7-212       %Rec       1       8/19/2022 4:08:3         EPA METHOD 8021B: VOLATILES       Analyst         Benzene       ND       0.025       mg/Kg       1       8/19/2022 4:08:3         Toluene       ND       0.025       mg/Kg       1       8/19/2022 4:08:3         Ethylbenzene       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Xylenes, Total       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Surr: 4-Bromofluorobenzene       92.8       70-130       %Rec       1       8/19/2022 4:08:3         EPA METHOD 300.0: ANIONS       VI       0.098       mg/Kg       1       8/19/2022 4:08:3	Surr: DNOP	65.2	21-129	%Rec	2	8/23/2022 4:21:37 PM
Surr: BFB       96.5       37.7-212       %Rec       1       8/19/2022 4:08:3         EPA METHOD 8021B: VOLATILES       Analyst         Benzene       ND       0.025       mg/Kg       1       8/19/2022 4:08:3         Toluene       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Ethylbenzene       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Xylenes, Total       ND       0.049       mg/Kg       1       8/19/2022 4:08:3         Surr: 4-Bromofluorobenzene       92.8       70-130       %Rec       1       8/19/2022 4:08:3         EPA METHOD 300.0: ANIONS       Analyst	EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
EPA METHOD 8021B: VOLATILES         ND         0.025         mg/Kg         1         8/19/2022 4:08:3           Benzene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Toluene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Ethylbenzene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Xylenes, Total         ND         0.098         mg/Kg         1         8/19/2022 4:08:3           Surr: 4-Bromofluorobenzene         92.8         70-130         %Rec         1         8/19/2022 4:08:3           EPA METHOD 300.0: ANIONS         Yes         Analyst	Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/19/2022 4:08:32 AM
Benzene         ND         0.025         mg/Kg         1         8/19/2022 4:08:3           Toluene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Ethylbenzene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Xylenes, Total         ND         0.098         mg/Kg         1         8/19/2022 4:08:3           Surr: 4-Bromofluorobenzene         92.8         70-130         %Rec         1         8/19/2022 4:08:3           EPA METHOD 300.0: ANIONS         Xanalyst	Surr: BFB	96.5	37.7-212	%Rec	1	8/19/2022 4:08:32 AM
Toluene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Ethylbenzene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Xylenes, Total         ND         0.098         mg/Kg         1         8/19/2022 4:08:3           Surr: 4-Bromofluorobenzene         92.8         70-130         %Rec         1         8/19/2022 4:08:3           EPA METHOD 300.0: ANIONS         Xanalyst	EPA METHOD 8021B: VOLATILES					Analyst: NSB
Ethylbenzene         ND         0.049         mg/Kg         1         8/19/2022 4:08:3           Xylenes, Total         ND         0.098         mg/Kg         1         8/19/2022 4:08:3           Surr: 4-Bromofluorobenzene         92.8         70-130         %Rec         1         8/19/2022 4:08:3           EPA METHOD 300.0: ANIONS         Xalian         Xalian         Xalian         Xalian         Xalian	Benzene	ND	0.025	mg/Kg	1	8/19/2022 4:08:32 AM
Xylenes, Total         ND         0.098         mg/Kg         1         8/19/2022 4:08:3           Surr: 4-Bromofluorobenzene         92.8         70-130         %Rec         1         8/19/2022 4:08:3           EPA METHOD 300.0: ANIONS         Analyst	Toluene	ND	0.049	mg/Kg	1	8/19/2022 4:08:32 AM
Surr: 4-Bromofluorobenzene         92.8         70-130         %Rec         1         8/19/2022 4:08:3           EPA METHOD 300.0: ANIONS         Analyst	Ethylbenzene	ND	0.049	mg/Kg	1	8/19/2022 4:08:32 AM
EPA METHOD 300.0: ANIONS Analyst	Xylenes, Total	ND	0.098	mg/Kg	1	8/19/2022 4:08:32 AM
	Surr: 4-Bromofluorobenzene	92.8	70-130	%Rec	1	8/19/2022 4:08:32 AM
Chloride ND 60 mg/Kg 20 8/19/2022 10:57:	EPA METHOD 300.0: ANIONS					Analyst: JTT
	Chloride	ND	60	mg/Kg	20	8/19/2022 10:57:51 PM

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

**Qualifiers:** 

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

Page 2 of 23

Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

2208929-003

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-02 0ft Collection Date: 8/10/2022 9:30:00 AM Received Date: 8/16/2022 7:25:00 AM

<b>Eub ID</b> . 2200/2/ 005	Soll	11000	cived Duter	0/10/2	
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	8/19/2022 6:25:20 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/19/2022 6:25:20 AM
Surr: DNOP	95.2	21-129	%Rec	1	8/19/2022 6:25:20 AM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/19/2022 9:12:00 AM
Surr: BFB	105	37.7-212	%Rec	1	8/19/2022 9:12:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.025	mg/Kg	1	8/19/2022 9:12:00 AM
Toluene	ND	0.049	mg/Kg	1	8/19/2022 9:12:00 AM
Ethylbenzene	ND	0.049	mg/Kg	1	8/19/2022 9:12:00 AM
Xylenes, Total	ND	0.098	mg/Kg	1	8/19/2022 9:12:00 AM
Surr: 4-Bromofluorobenzene	98.8	70-130	%Rec	1	8/19/2022 9:12:00 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	ND	59	mg/Kg	20	8/19/2022 11:10:16 PM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-02 2ft Collection Date: 8/10/2022 9:40:00 AM Received Date: 8/16/2022 7:25:00 AM

Lab ID: 2208929-004	Matrix: SOIL	Rece	eived Date:	8/16/2	022 7:25:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	8/19/2022 6:49:05 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	8/19/2022 6:49:05 AM
Surr: DNOP	96.1	21-129	%Rec	1	8/19/2022 6:49:05 AM
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	8/19/2022 10:11:00 AM
Surr: BFB	101	37.7-212	%Rec	1	8/19/2022 10:11:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.023	mg/Kg	1	8/19/2022 10:11:00 AM
Toluene	ND	0.047	mg/Kg	1	8/19/2022 10:11:00 AM
Ethylbenzene	ND	0.047	mg/Kg	1	8/19/2022 10:11:00 AM
Xylenes, Total	ND	0.093	mg/Kg	1	8/19/2022 10:11:00 AM
Surr: 4-Bromofluorobenzene	99.1	70-130	%Rec	1	8/19/2022 10:11:00 AM
EPA METHOD 300.0: ANIONS					Analyst: <b>JTT</b>
Chloride	ND	60	mg/Kg	20	8/19/2022 11:22:41 PM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

8/19/2022 11:35:05 PM

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-03 Oft **Project:** Tomcat 17 Fed 1 Collection Date: 8/10/2022 9:50:00 AM Lab ID: 2208929-005 Matrix: SOIL Received Date: 8/16/2022 7:25:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS **Diesel Range Organics (DRO)** ND 15 mg/Kg 1 8/19/2022 7:12:50 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 8/19/2022 7:12:50 AM Surr: DNOP 98.1 21-129 %Rec 1 8/19/2022 7:12:50 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: BRM Gasoline Range Organics (GRO) ND 8/19/2022 11:10:00 AM 4.9 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 8/19/2022 11:10:00 AM **EPA METHOD 8021B: VOLATILES** Analyst: BRM Benzene ND 0.024 8/19/2022 11:10:00 AM mg/Kg 1 Toluene ND 0.049 mg/Kg 1 8/19/2022 11:10:00 AM Ethylbenzene ND 0.049 mg/Kg 1 8/19/2022 11:10:00 AM Xylenes, Total ND 0.097 mg/Kg 8/19/2022 11:10:00 AM 1 Surr: 4-Bromofluorobenzene 95.5 70-130 %Rec 1 8/19/2022 11:10:00 AM **EPA METHOD 300.0: ANIONS** Analyst: JTT

ND

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 range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

mg/Kg

20

60

P Sample pH Not In Range

RL Reporting Limit

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Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

2208929-006

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-03 2ft Collection Date: 8/10/2022 10:00:00 AM Received Date: 8/16/2022 7:25:00 AM

<b>Eub ID</b> (2200)2) 000	Soll	11000	liveu Dutei	0/10/2	022 /.20.00 / Hill
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	14	mg/Kg	1	8/19/2022 7:36:42 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	8/19/2022 7:36:42 AM
Surr: DNOP	94.0	21-129	%Rec	1	8/19/2022 7:36:42 AM
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/19/2022 11:30:00 AM
Surr: BFB	101	37.7-212	%Rec	1	8/19/2022 11:30:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.024	mg/Kg	1	8/19/2022 11:30:00 AM
Toluene	ND	0.049	mg/Kg	1	8/19/2022 11:30:00 AM
Ethylbenzene	ND	0.049	mg/Kg	1	8/19/2022 11:30:00 AM
Xylenes, Total	ND	0.098	mg/Kg	1	8/19/2022 11:30:00 AM
Surr: 4-Bromofluorobenzene	98.8	70-130	%Rec	1	8/19/2022 11:30:00 AM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	ND	60	mg/Kg	20	8/19/2022 11:47:30 PM

Matrix: SOIL

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

**Qualifiers:** 

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

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-04 0ft Collection Date: 8/10/2022 10:10:00 AM Received Date: 8/16/2022 7:25:00 AM

Lab ID: 2208929-007	Matrix: SOIL	R	eceive	ed Date:	8/16/2	2022 7:25:00 AM
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst: DGH
Diesel Range Organics (DRO)	1200	290		mg/Kg	20	8/23/2022 4:43:10 PM
Motor Oil Range Organics (MRO)	1900	980		mg/Kg	20	8/23/2022 4:43:10 PM
Surr: DNOP	0	21-129	S	%Rec	20	8/23/2022 4:43:10 PM
EPA METHOD 8015D: GASOLINE RANG	E					Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/19/2022 11:50:00 AM
Surr: BFB	99.3	37.7-212		%Rec	1	8/19/2022 11:50:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/19/2022 11:50:00 AM
Toluene	ND	0.050		mg/Kg	1	8/19/2022 11:50:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	8/19/2022 11:50:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	8/19/2022 11:50:00 AM
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	8/19/2022 11:50:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	8/19/2022 11:59:55 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**Project:** Tomcat 17 Fed 1

**CLIENT:** Vertex Resources Services, Inc.

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-04 2ft Collection Date: 8/10/2022 10:20:00 AM Received Date: 8/16/2022 7:25:00 AM

Lab ID: 2208929-008	Matrix: SOIL	F	Receive	ed Date:	8/16/2	2022 7:25:00 AM
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst: DGH
Diesel Range Organics (DRO)	1300	140		mg/Kg	10	8/29/2022 4:58:33 PM
Motor Oil Range Organics (MRO)	1700	470		mg/Kg	10	8/29/2022 4:58:33 PM
Surr: DNOP	0	21-129	S	%Rec	10	8/29/2022 4:58:33 PM
EPA METHOD 8015D: GASOLINE RANGI	E					Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/19/2022 12:09:00 PM
Surr: BFB	102	37.7-212		%Rec	1	8/19/2022 12:09:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: BRM
Benzene	ND	0.025		mg/Kg	1	8/19/2022 12:09:00 PM
Toluene	ND	0.050		mg/Kg	1	8/19/2022 12:09:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/19/2022 12:09:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/19/2022 12:09:00 PM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	8/19/2022 12:09:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	8/22/2022 2:37:46 PM

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

**Qualifiers:** 

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

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-05 0ft Collection Date: 8/10/2022 10:30:00 AM Received Date: 8/16/2022 7:25:00 AM

Lab ID: 2208929-009	Matrix: SOIL	Rece	vived Date:	8/16/2	022 7:25:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	8/19/2022 12:41:52 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/19/2022 12:41:52 PM
Surr: DNOP	107	21-129	%Rec	1	8/19/2022 12:41:52 PM
EPA METHOD 8015D: GASOLINE RANG	<b>GE</b>				Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/19/2022 12:29:00 PM
Surr: BFB	102	37.7-212	%Rec	1	8/19/2022 12:29:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.024	mg/Kg	1	8/19/2022 12:29:00 PM
Toluene	ND	0.049	mg/Kg	1	8/19/2022 12:29:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	8/19/2022 12:29:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	8/19/2022 12:29:00 PM
Surr: 4-Bromofluorobenzene	97.9	70-130	%Rec	1	8/19/2022 12:29:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	59	mg/Kg	20	8/22/2022 2:50:07 PM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E 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 2208929

Date Reported: 8/30/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-05 2ft **Project:** Tomcat 17 Fed 1 Collection Date: 8/10/2022 10:40:00 AM Lab ID: 2208929-010 Matrix: SOIL Received Date: 8/16/2022 7:25:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS **Diesel Range Organics (DRO)** ND 14 mg/Kg 1 8/19/2022 1:05:49 PM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 8/19/2022 1:05:49 PM Surr: DNOP 107 21-129 %Rec 1 8/19/2022 1:05:49 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: BRM Gasoline Range Organics (GRO) ND 8/19/2022 12:49:00 PM 4.9 mg/Kg 1 Surr: BFB 103 37.7-212 %Rec 1 8/19/2022 12:49:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: BRM Benzene ND 0.025 8/19/2022 12:49:00 PM mg/Kg 1 Toluene ND 0.049 mg/Kg 1 8/19/2022 12:49:00 PM Ethylbenzene ND 0.049 mg/Kg 1 8/19/2022 12:49:00 PM Xylenes, Total ND 0.098 mg/Kg 8/19/2022 12:49:00 PM 1 Surr: 4-Bromofluorobenzene 100 70-130 %Rec 1 8/19/2022 12:49:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI mg/Kg Chloride 8/22/2022 4:16:32 PM ND 60 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 range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-06 0ft Collection Date: 8/10/2022 10:50:00 AM Received Date: 8/16/2022 7:25:00 AM

Lab ID: 2208929-011	Matrix: SOIL	Rece	eived Date:	8/16/2	022 7:25:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGI	E ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	14	mg/Kg	1	8/19/2022 4:48:44 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	8/19/2022 4:48:44 PM
Surr: DNOP	97.3	21-129	%Rec	1	8/19/2022 4:48:44 PM
EPA METHOD 8015D: GASOLINE RANG	Ε				Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	8/19/2022 1:09:00 PM
Surr: BFB	104	37.7-212	%Rec	1	8/19/2022 1:09:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.025	mg/Kg	1	8/19/2022 1:09:00 PM
Toluene	ND	0.050	mg/Kg	1	8/19/2022 1:09:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	8/19/2022 1:09:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	8/19/2022 1:09:00 PM
Surr: 4-Bromofluorobenzene	98.5	70-130	%Rec	1	8/19/2022 1:09:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	8/22/2022 4:28:54 PM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 Sample Diluted Due to 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 interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

2208929-012

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-06 2ft Collection Date: 8/10/2022 11:00:00 AM Received Date: 8/16/2022 7:25:00 AM

<b>Euro 10</b> 2200929 012	Soll	1000	cived Duter	0/10/2	022 7.25.00 71.1
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	8/19/2022 5:02:43 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	8/19/2022 5:02:43 PM
Surr: DNOP	95.7	21-129	%Rec	1	8/19/2022 5:02:43 PM
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/19/2022 1:28:00 PM
Surr: BFB	105	37.7-212	%Rec	1	8/19/2022 1:28:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.024	mg/Kg	1	8/19/2022 1:28:00 PM
Toluene	ND	0.048	mg/Kg	1	8/19/2022 1:28:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	8/19/2022 1:28:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	8/19/2022 1:28:00 PM
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	8/19/2022 1:28:00 PM
EPA METHOD 300.0: ANIONS					Analyst: <b>JMT</b>
Chloride	ND	60	mg/Kg	20	8/22/2022 1:46:52 PM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Date Reported: 8/30/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-07 0' **Project:** Tomcat 17 Fed 1 Collection Date: 8/10/2022 11:10:00 AM Lab ID: 2208929-013 Matrix: SOIL Received Date: 8/16/2022 7:25:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS **Diesel Range Organics (DRO)** ND 14 mg/Kg 1 8/19/2022 5:16:41 PM Motor Oil Range Organics (MRO) 8/19/2022 5:16:41 PM ND 47 mg/Kg 1 Surr: DNOP 86.8 21-129 %Rec 1 8/19/2022 5:16:41 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: BRM Gasoline Range Organics (GRO) ND 8/19/2022 2:08:00 PM 4.8 mg/Kg 1 Surr: BFB 100 37.7-212 %Rec 1 8/19/2022 2:08:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: BRM Benzene ND 0.024 8/19/2022 2:08:00 PM mg/Kg 1 Toluene ND 0.048 mg/Kg 1 8/19/2022 2:08:00 PM Ethylbenzene ND 0.048 mg/Kg 1 8/19/2022 2:08:00 PM Xylenes, Total ND 0.096 mg/Kg 1 8/19/2022 2:08:00 PM Surr: 4-Bromofluorobenzene 97.1 70-130 %Rec 1 8/19/2022 2:08:00 PM **EPA METHOD 300.0: ANIONS** Analyst: JMT mg/Kg Chloride 8/22/2022 2:24:05 PM ND 60 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 range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Lab ID:

Xylenes, Total

Chloride

Surr: 4-Bromofluorobenzene

**EPA METHOD 300.0: ANIONS** 

**Analytical Report** Lab Order 2208929

Date Reported: 8/30/2022

8/19/2022 2:27:00 PM

8/19/2022 2:27:00 PM

8/22/2022 2:36:29 PM

Analyst: JMT

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-07 2' Tomcat 17 Fed 1 Collection Date: 8/10/2022 11:20:00 AM 2208929-014 Matrix: SOIL Received Date: 8/16/2022 7:25:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** ND 14 mg/Kg 1 8/19/2022 5:30:33 PM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 8/19/2022 5:30:33 PM Surr: DNOP 88.6 21-129 %Rec 1 8/19/2022 5:30:33 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: BRM Gasoline Range Organics (GRO) ND 8/19/2022 2:27:00 PM 4.9 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 8/19/2022 2:27:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: BRM Benzene ND 0.024 8/19/2022 2:27:00 PM mg/Kg 1 Toluene ND 0.049 mg/Kg 1 8/19/2022 2:27:00 PM Ethylbenzene ND 0.049 mg/Kg 1 8/19/2022 2:27:00 PM

0.098

70-130

60

mg/Kg

%Rec

mg/Kg

1

1

20

ND

97.7

ND

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

POL

Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

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

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Released to Imaging: 3/13/2024 10:44:45 AM

Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

2208929-015

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-08 0' Collection Date: 8/10/2022 11:30:00 AM Received Date: 8/16/2022 7:25:00 AM

Analyses	Result	RL Qu	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	8/19/2022 5:44:29 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/19/2022 5:44:29 PM
Surr: DNOP	94.0	21-129	%Rec	1	8/19/2022 5:44:29 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: BRM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/19/2022 2:47:00 PM
Surr: BFB	101	37.7-212	%Rec	1	8/19/2022 2:47:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.024	mg/Kg	1	8/19/2022 2:47:00 PM
Toluene	ND	0.048	mg/Kg	1	8/19/2022 2:47:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	8/19/2022 2:47:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	8/19/2022 2:47:00 PM
Surr: 4-Bromofluorobenzene	97.7	70-130	%Rec	1	8/19/2022 2:47:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	340	60	mg/Kg	20	8/22/2022 2:48:53 PM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.
 D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Fed 1

2208929-016

Analytical Report Lab Order 2208929

Date Reported: 8/30/2022

## Hall Environmental Analysis Laboratory, Inc.

 Client Sample ID: BH22-08 2'

 Collection Date: 8/10/2022 11:40:00 AM

 Matrix: SOIL
 Received Date: 8/16/2022 7:25:00 AM

Analyses	Result	RL Qu	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	8/19/2022 5:58:26 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/19/2022 5:58:26 PM
Surr: DNOP	90.7	21-129	%Rec	1	8/19/2022 5:58:26 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: BRM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	8/19/2022 3:07:00 PM
Surr: BFB	104	37.7-212	%Rec	1	8/19/2022 3:07:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: BRM
Benzene	ND	0.025	mg/Kg	1	8/19/2022 3:07:00 PM
Toluene	ND	0.050	mg/Kg	1	8/19/2022 3:07:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	8/19/2022 3:07:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	8/19/2022 3:07:00 PM
Surr: 4-Bromofluorobenzene	97.9	70-130	%Rec	1	8/19/2022 3:07:00 PM
EPA METHOD 300.0: ANIONS					Analyst: <b>JMT</b>
Chloride	400	60	mg/Kg	20	8/22/2022 3:01:19 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

- ND Net Detected at the Department Lineit
- NDNot Detected at the Reporting LimitPQLPractical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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H Holding times for preparation or analysis exceeded

Client: Project:		Resources Services, t 17 Fed 1	Inc.							
Sample ID:	MB-69643	SampType: mb	lk	Tes	tCode: EF	PA Method	300.0: Anions	5		
Client ID:	PBS	Batch ID: 696	43	RunNo: 90418						
Prep Date:	8/19/2022	Analysis Date: 8/1	9/2022	SeqNo: 3228127 Units: mg/Kg			g			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.5								
Sample ID:	LCS-69643	SampType: Ics		Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID:	LCSS	Batch ID: 696	43	F	RunNo: <b>9(</b>	0418				
Prep Date:	8/19/2022	Analysis Date: 8/1	9/2022	S	SeqNo: 32	228128	Units: mg/K	g		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14 1.5	15.00	0	93.0	90	110			
Sample ID:	MB-69658	SampType: mb	lk	Tes	tCode: EF	PA Method	300.0: Anions	5		
Client ID:	PBS	Batch ID: 696	58	F	RunNo: <b>90</b>	0467				
Prep Date:	8/22/2022	Analysis Date: 8/2	2/2022	S	SeqNo: 32	230756	Units: mg/K	g		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.5								
Sample ID:	LCS-69658	SampType: Ics		Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID:	LCSS	Batch ID: 696	58	F	RunNo: <b>90</b>	0467				
Prep Date:	8/22/2022	Analysis Date: 8/2	22/2022	S	SeqNo: 32	230757	Units: mg/K	g		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14 1.5	15.00	0	92.6	90	110			
Sample ID:	MB-69662	SampType: mb	lk	Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID:	PBS	Batch ID: 696	62	F	RunNo: <b>9(</b>	0487				
Prep Date:	8/22/2022	Analysis Date: 8/2	2/2022	S	SeqNo: 32	231258	Units: mg/K	g		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.5								
Sample ID:	LCS-69662	SampType: Ics		Tes	tCode: EF	PA Method	300.0: Anions	5		
Client ID:	LCSS	Batch ID: 696	62	F	RunNo: <b>90</b>	0487				
Prep Date:	8/22/2022	Analysis Date: 8/2	2/2022	S	SeqNo: 32	231259	Units: mg/K	g		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14 1.5	15.00	0	91.1	90	110			

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- Analyte detected in the associated Method Blank В
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- Reporting Limit RL

2208929

30-Aug-22

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SUMINIARY REPORT	WO#:	2208929
Environmental Analysis Laboratory, Inc.		30-Aug-22

Client: Vertex R Project: Tomcat	Resources Services 17 Fed 1	s, Inc.									
Sample ID: MB-69591	SampType: M	BLK	Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 69	9591	F	RunNo: 90431							
Prep Date: 8/18/2022	Analysis Date: 8	/19/2022	Ş	SeqNo: <b>32</b>	27097	Units: mg/K	g				
Analyte	Result PQL	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	9.2	10.00		91.8	21	129					
Sample ID: LCS-69591	SampType: L	cs	Tes	tCode: EP	A Method	8015M/D: Dies	sel Range	Organics			
Client ID: LCSS	Batch ID: 69	9591	F	RunNo: <b>90</b> 4	431						
Prep Date: 8/18/2022	Analysis Date: 8	/19/2022	S	SeqNo: <b>32</b>	27098	Units: mg/Kg	g				
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	54 15	50.00	0	107	64.4	127					
Surr: DNOP	5.0	5.000		99.3	21	129					
Sample ID: MB-69588	SampType: M	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics									
Client ID: PBS	Batch ID: 69	588	F	RunNo: 90394							
Prep Date: 8/17/2022	Analysis Date: 8	/18/2022	S	SeqNo: <b>32</b> :	31792	Units: mg/Kg	g				
Analyte	Result PQL	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	8.7	10.00		87.1	21	129					
Sample ID: LCS-69588	SampType: L	cs	Tes	tCode: EP	A Method	8015M/D: Dies	sel Range	Organics			
Client ID: LCSS	Batch ID: 69	588	F	RunNo: <b>90</b> :	394						
Prep Date: 8/17/2022	Analysis Date: 8	/18/2022	S	SeqNo: <b>32</b> :	31796	Units: mg/K	g				
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	47 15	50.00	0	93.8	64.4	127					
Surr: DNOP	4.6	5.000		91.2	21	129					
Sample ID: LCS-69815	SampType: L	cs	Tes	tCode: EP	A Method	8015M/D: Dies	sel Range	Organics			
Client ID: LCSS	Batch ID: 69	815	F	RunNo: <b>90</b>	634						
Prep Date: 8/29/2022	Analysis Date: 8	/29/2022	S	SeqNo: <b>32</b> :	38730	Units: %Rec					
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: DNOP	3.7	5.000		73.9	21	129					

- Value exceeds Maximum Contaminant Level. \*
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- В Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Client:	Vertex	Resources Services,	, Inc.							
Project:	Tomca	t 17 Fed 1								
Sample ID:	MB-69815	SampType: ME	BLK	Tes	tCode: EP	PA Method	8015M/D: Dies	el Range	Organics	
Client ID:	PBS	Batch ID: 69	815	R	lunNo: <b>90</b>	0634				
Prep Date:	8/29/2022	Analysis Date: 8/	29/2022	S	SeqNo: 32	238731	Units: %Rec			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		8.4	10.00		83.6	21	129			
Sample ID:	LCS-69828	SampType: LC	s	Tes	tCode: EP	PA Method	8015M/D: Dies	el Range	Organics	
Client ID:	LCSS	Batch ID: 69	828	R	lunNo: <b>90</b>	0634				
Prep Date:	8/29/2022	Analysis Date: 8/	30/2022	S	SeqNo: 32	239246	Units: %Rec			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		3.9	5.000		77.2	21	129			
Sample ID:	MB-69828	SampType: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Dies	el Range	Organics	
Client ID:	PBS	Batch ID: 69	828	R	lunNo: <b>90</b>	0634				
Prep Date:	8/29/2022	Analysis Date: 8/	30/2022	S	SeqNo: 32	239248	Units: %Rec			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		9.2	10.00		91.9	21	129			

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to 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 interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2208929

30-Aug-22

Client:Vertex ReProject:Tomcat 1	esources Services 7 Fed 1	s, Inc.							
Sample ID: mb-69551	SampType: M	BLK	Tes	stCode: El	PA Method	8015D: Gasol	ine Range		
Client ID: PBS	Batch ID: 69	551	F	RunNo: 9	0389				
Prep Date: 8/16/2022	Analysis Date: 8	/18/2022	Ş	SeqNo: 3	225364	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 5.0 1100	1000		107	37.7	212			
Sample ID: Ics-69551	SampType: L	cs	Tes	stCode: El	PA Method	8015D: Gasol	ine Range		
Client ID: LCSS	Batch ID: 69	551	F	RunNo: <b>9</b>	0389				
Prep Date: 8/16/2022	Analysis Date: 8	/18/2022	\$	SeqNo: 3	225365	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27 5.0		0	108	72.3	137			
Surr: BFB	2200	1000		215	37.7	212			S
Sample ID: Ics-69575	SampType: L	cs	Tes	stCode: El	PA Method	8015D: Gasol	ine Range		
Client ID: LCSS	Batch ID: 69	575	F	RunNo: <b>9</b>	0452				
Prep Date: 8/17/2022	Analysis Date: 8	/19/2022	5	SeqNo: 3	227560	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		0	103	72.3	137			
Surr: BFB	2200	1000		222	37.7	212			S
Sample ID: mb-69575	SampType: M	BLK	Tes	stCode: El	PA Method	8015D: Gasol	ine Range		
Client ID: PBS	Batch ID: 69	575	F	RunNo: <b>9</b>	0452				
Prep Date: 8/17/2022	Analysis Date: 8	/19/2022	S	SeqNo: 3	227561	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		102	37.7	212			
Sample ID: 2208929-003ams	SampType: M	S	Tes	stCode: El	PA Method	8015D: Gasol	ine Range		
Client ID: BH22-02 Oft	Batch ID: 69	575	F	RunNo: <b>9</b>	0452				
Prep Date: 8/17/2022	Analysis Date: 8	/19/2022	S	SeqNo: 3	227563	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24 4.9		0	98.6	70	130			
Surr: BFB	2200	976.6		225	37.7	212			S
Sample ID: 2208929-003amsd	SampType: M	SD	Tes	stCode: El	PA Method	8015D: Gasol	ine Range		
Client ID: BH22-02 0ft	Batch ID: 69	575	F	RunNo: <b>9</b>	0452				
Prep Date: 8/17/2022	Analysis Date: 8	/19/2022	Ş	SeqNo: 3	227564	Units: mg/K	g		
Analyte	Result PQL	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 Quanitative Limit

- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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30-Aug-22

2208929

Client: Project:	Vertex Re Tomcat 1		ervices,								
Sample ID:	2208929-003amsd	SampT	уре: <b>МS</b>	D	Tes	tCode: EF	PA Method	8015D: Gaso	line Range	!	
Client ID:	BH22-02 0ft	Batch	n ID: 695	575	F	RunNo: <b>9(</b>	452				
Prep Date:	8/17/2022	Analysis D	ate: <b>8/</b>	19/2022	S	SeqNo: 32	27564	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	23	4.8	24.22	0	95.8	70	130	3.58	20	
Surr: BFB		2100		969.0		218	37.7	212	0	0	S

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to 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 interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2208929

30-Aug-22

Client:Vertex ReProject:Tomcat 1		bervices,	Inc.							
Sample ID: mb-69551	Samp	Гуре: МЕ	BLK	Tes	stCode: EF	PA Method	8021B: Volat	iles		
Client ID: PBS	Batc	h ID: 695	551	F	RunNo: <b>9(</b>					
Prep Date: 8/16/2022	Analysis [	Date: <b>8/</b> *	18/2022	;	SeqNo: 32	225418	Units: <b>mg/k</b>	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	0.99		1.000		99.3	70	130			
Sample ID: LCS-69551	Samp	Гуре: <b>LC</b>	S	Tes	stCode: EF	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batc	h ID: 695	551	F	RunNo: <b>9(</b>	)389				
Prep Date: 8/16/2022	Analysis [	Date: <b>8/</b> *	18/2022	:	SeqNo: 32	225419	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.6	70	130			
Sample ID: Ics-69575	Samp	Гуре: <b>LC</b>	s	Tes	stCode: EF	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batc	h ID: 695	575	F	RunNo: <b>9(</b>	0452				
Prep Date: 8/17/2022	Analysis [	Date: <b>8/</b> *	19/2022	:	SeqNo: 32	227608	Units: <b>mg/k</b>	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	82.6	80	120			
Toluene	0.85	0.050	1.000	0	85.3	80	120			
Ethylbenzene	0.86	0.050	1.000	0	86.0	80	120			
Xylenes, Total	2.6	0.10	3.000	0	85.5	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.1	70	130			
Sample ID: mb-69575	Samp	Гуре: <b>МЕ</b>	BLK	Tes	stCode: EF	PA Method	8021B: Volat	iles		
Client ID: PBS	Batc	h ID: 695	575	F	RunNo: <b>9(</b>	0452				
Prep Date: 8/17/2022	Analysis [	Date: <b>8/</b> *	19/2022	:	SeqNo: 32	227609	Units: <b>mg/k</b>	(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	0.99		1.000		99.3	70	130			

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

- % Recovery outside of range due to dilution or matrix interference S
- Analyte detected in the associated Method Blank В

Е Estimated value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

Reporting Limit RL

2208929

30-Aug-22

Client: Project:	Vertex Resources Services, Inc. Tomcat 17 Fed 1											
Sample ID:	2208929-004ams	Samp	Гуре: <b>МS</b>	;	Tes	tCode: EF	PA Method	8021B: Volati	les			
Client ID:	BH22-02 2ft	Batc	h ID: 695	575	F	RunNo: <b>9(</b>	0452					
Prep Date:	8/17/2022	Analysis [	Date: <b>8/</b> *	19/2022	S	SeqNo: 32	227612	Units: mg/K	g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.83	0.024	0.9681	0	85.7	68.8	120				
Toluene		0.85	0.048	0.9681	0	88.3	73.6	124				
Ethylbenzene		0.89	0.048	0.9681	0	91.8	72.7	129				
Xylenes, Total		2.6	0.097	2.904	0	91.0	75.7	126				
Surr: 4-Brom	ofluorobenzene	0.97		0.9681		99.7	70	130				
Sample ID:	2208929-004amsd	Samp	Гуре: <b>МЅ</b>	D	Tes	tCode: EF	PA Method	8021B: Volati	les			
Client ID:	BH22-02 2ft	Batc	h ID: 695	575	F	RunNo: <b>9(</b>	0452					
Prep Date:	8/17/2022	Analysis [	Date: <b>8/</b> *	19/2022	S	SeqNo: 32	227613	Units: mg/K	g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.81	0.024	0.9579	0	84.1	68.8	120	2.98	20		
Toluene		0.83	0.048	0.9579	0	86.8	73.6	124	2.80	20		
Ethylbenzene		0.86	0.048	0.9579	0	89.8	72.7	129	3.23	20		
Xylenes, Total		2.6	0.096	2.874	0	89.5	75.7	126	2.69	20		
Surr 4-Brom	ofluorobenzene	0.95		0.9579		99.3	70	130	0	0		

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- Analyte detected in the associated Method Blank В
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- Reporting Limit RL

Page 23 of 23

WO#: 2208929

30-Aug-22

ANAL	RONMENT	86:40 PM	TE	ll Environment A L: 505-345-39 Website: www.	490 Ibuquerq 75 FAX:	1 Hawki ue, NM 505-345	ns NE 87109	San	nple Log-In (	Page 15 Check List
Client Name:	Vertex Res Services, I		Work	Order Numb	er: 220	3929			RcptNc	»: 1
Received By:	Juan Roj	as	8/16/20	22 7:25:00 A	м		Hear	3.9		
Completed By:	Cheyenn	e Cason	8/16/20	22 9:31:33 A	м		Cherl	1		
Reviewed By:	MOG	8.16	.22							
Chain of Cu	stody									
1. Is Chain of C	ustody comp	olete?			Yes		No		Not Present	
2. How was the	sample deliv	vered?			Cou	ier				
Log In										
3. Was an atter	npt made to	cool the samples	\$?		Yes		No		NA 🗌	
4. Were all sam	ples received	d at a temperatu	e of >0° C	to 6.0°C	Yes		No			
5. Sample(s) in	proper conta	iner(s)?			Yes		No			
6. Sufficient sar	nple volume i	for indicated test	(s)?		Yes	~	No			
7. Are samples	(except VOA	and ONG) prope	erly preserve	ed?	Yes	~	No			
8. Was preserva	ative added to	bottles?			Yes		No	~	NA 🗌	
9. Received at l	east 1 vial wit	th headspace <1	/4" for AQ V	'OA?	Yes		No		NA 🗹	
10. Were any sa	mple contain	ers received bro	ken?		Yes		No	~	# of preserved	
11. Does paperw		ttle labels? ain of custody)			Yes	~	No		bottles checked for pH:	r >12 unless noted)
12. Are matrices			of Custody?		Yes	~	No		Adjusted?	r > rz uniess noted)
13. Is it clear what			in outplot			V	2. 1		-	/ /
14. Were all hold	ng times able								Cheeked by:	jn 8/16/
Special Hand										
15. Was client n		a series and a series of the s	h this order?	en i	Yes		No		NA 🗹	
Person	Notified:	I		Date:	1			-		
By Wh	om:			Via:	🗌 eMa	ul 🔲	Phone	Fax	🗌 In Person	
Regard										
16. Additional re	nstructions:	1								
17. <u>Cooler Info</u> Cooler No 1	and the first states	and the second sec	Seal Intact ot Present	Seal No	Seal D	ate	Signed E	By		

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Page 1 of 1

Received by OCD: 3/12/2024 1	36:40 PM		Page 159 of 309
HALL ENVIRONMENTA ANALYSIS LABORATOF www.hallenvironmental.com kins NE - Albuquerque, NM 87109 345-3975 Fax 505-345-4107 Analysis Request	(AOV-ime) (S270 (Semi-VOA) Total Coliform (Present/Absent)		Nings Deron
Hall ENVIRON         Aall ENVIRON         NALYSIS LABC         www.hallenvironmental.com         www.hallenvironmental.com         ins NE - Albuquerque, NM 8         Ins NE - Albuquerque, NM 8	PAHs by 8310 or 8270SIMS RCRA 8 Metals ⓓ F, Br, NO₃, NO₂, PO₄, SO₄ 8260 (VOA)		Levet Stallings Diract Bill Devon
HALL ANAL www.ha 4901 Hawkins NE Tel. 505-345-3975	TPH:8015D(GRO / DRO / MRO) 8081 Pesticides/8082 PCB's EDB (Method 504.1) PAHs hy 8310 of 82209IMS		rks: 2 Cen
	BTEX / MTBE / TMB's (8021)		Remarks:
Hed 1 Fed 1	NGS do Kodvigue 3.6.0.3.6 (°C) 2.20.69.289	CCI CCI CCI CCI CCI CCI CCI CCI CCI CCI	Time:       Relinquished by:       Received by:       Via:       Date       Time       Remarks:         19:0       19:0       10:0
d Time: d Rush ne: put 17 F 27.5-028	Iger: Stalli Ves Mounding CF): Type	9	Via: Via: Via: Count
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DA GA	□ Az Con □ Other Matrix	Liaz	Relinquished by: Relinquished by: UUUUU
Client: DoviD Mailing Address:	email or Fax#: QA/QC Package: Candard Accreditation: NELAC CType)	9:10 9:10 9:50 9:50 10:00 10:10 10:10 10:10 10:50 10:50 10:50	
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		Project Name:			100000	hallanviron			OCD
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		Project #:		Tel 50	Tel. 505-345-3975	Eax	505-345-4107	7	2/20
Phone #:		215-02816-027	6-027			Analysis	Request		241
email or Fax#:		Project Manager:		1.1.1.5			(tr		:36:
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	Other	On Ice: T-Yes	0N0	OB	0 ot				
		Cooler Temp/including CF1:	3.6-0-2. (°C)	ם(כ	168	N			
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December 16, 2022

Kent Stallings Vertex Resources Services, Inc. 3101 Boyd Drive Carlsbad, NM 88220 TEL: (505) 506-0040 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

OrderNo.: 2212446

RE: Tomcat 17 Federal 001

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 12 sample(s) on 12/8/2022 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Date Reported: 12/16/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-09 0' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 9:20:00 AM Lab ID: 2212446-001 Matrix: SOIL Received Date: 12/8/2022 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) ND 14 mg/Kg 1 12/12/2022 1:02:20 PM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 12/12/2022 1:02:20 PM 21-129 Surr: DNOP 117 %Rec 1 12/12/2022 1:02:20 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/12/2022 7:46:30 PM 4.9 mg/Kg 1 Surr: BFB 90.3 37.7-212 %Rec 1 12/12/2022 7:46:30 PM **EPA METHOD 8021B: VOLATILES** Analyst: RAA Benzene ND 0.025 mg/Kg 12/12/2022 7:46:30 PM 1 Toluene ND 0.049 mg/Kg 1 12/12/2022 7:46:30 PM Ethylbenzene ND 0.049 mg/Kg 1 12/12/2022 7:46:30 PM Xylenes, Total ND 0.099 mg/Kg 1 12/12/2022 7:46:30 PM Surr: 4-Bromofluorobenzene 88.9 70-130 %Rec 1 12/12/2022 7:46:30 PM Analyst: JTT **EPA METHOD 300.0: ANIONS** Chloride 92 60 12/14/2022 4:16:42 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: 12/16/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-09 2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 9:25:00 AM Lab ID: 2212446-002 Matrix: SOIL Received Date: 12/8/2022 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) ND 14 mg/Kg 1 12/12/2022 8:18:25 PM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 12/12/2022 8:18:25 PM Surr: DNOP 107 21-129 %Rec 1 12/12/2022 8:18:25 PM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride 76 60 12/14/2022 4:29:06 PM mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.024 mg/Kg 12/9/2022 5:51:57 PM 1 Toluene ND 0.048 mg/Kg 12/9/2022 5:51:57 PM 1 Ethvlbenzene ND 0.048 mg/Kg 1 12/9/2022 5:51:57 PM Xylenes, Total ND 0.097 mg/Kg 1 12/9/2022 5:51:57 PM Surr: 1.2-Dichloroethane-d4 91.4 70-130 %Rec 1 12/9/2022 5:51:57 PM Surr: 4-Bromofluorobenzene 97.8 70-130 %Rec 1 12/9/2022 5:51:57 PM Surr: Dibromofluoromethane 101 70-130 %Rec 1 12/9/2022 5:51:57 PM Surr: Toluene-d8 110 70-130 %Rec 1 12/9/2022 5:51:57 PM **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/9/2022 5:51:57 PM 48 mg/Kg 1

90.9

70-130

%Rec

1

12/9/2022 5:51:57 PM

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

**Qualifiers:** 

Surr: BFB

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit POL
- Practical Quanitative Limit S

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

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

Page 2 of 19

Date Reported: 12/16/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-10 0' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 9:30:00 AM Lab ID: 2212446-003 Matrix: SOIL Received Date: 12/8/2022 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) ND 15 mg/Kg 1 12/12/2022 8:31:46 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/12/2022 8:31:46 PM Surr: DNOP 104 21-129 %Rec 1 12/12/2022 8:31:46 PM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride 12/14/2022 4:41:31 PM 96 60 mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.025 mg/Kg 12/9/2022 6:18:59 PM 1 Toluene ND 0.049 mg/Kg 12/9/2022 6:18:59 PM 1 Ethvlbenzene ND 0.049 mg/Kg 1 12/9/2022 6:18:59 PM Xylenes, Total ND 0.098 mg/Kg 1 12/9/2022 6:18:59 PM Surr: 1.2-Dichloroethane-d4 95.5 70-130 %Rec 1 12/9/2022 6:18:59 PM Surr: 4-Bromofluorobenzene 98.8 70-130 %Rec 1 12/9/2022 6:18:59 PM Surr: Dibromofluoromethane 70-130 %Rec 1 12/9/2022 6:18:59 PM 112 Surr: Toluene-d8 107 70-130 %Rec 1 12/9/2022 6:18:59 PM **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/9/2022 6:18:59 PM 49 mg/Kg 1

88.9

70-130

%Rec

1

12/9/2022 6:18:59 PM

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

**Qualifiers:** 

Surr: BFB

Value exceeds Maximum Contaminant Level
 Sample Diluted Due to 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

RL Rep

Page 3 of 19

Date Reported: 12/16/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-10 2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 9:35:00 AM Lab ID: 2212446-004 Matrix: SOIL Received Date: 12/8/2022 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) ND 14 mg/Kg 1 12/12/2022 8:45:01 PM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 12/12/2022 8:45:01 PM Surr: DNOP 107 21-129 %Rec 1 12/12/2022 8:45:01 PM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride 90 12/14/2022 4:53:55 PM 60 mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.025 mg/Kg 12/9/2022 6:45:59 PM 1 Toluene ND 0.050 mg/Kg 12/9/2022 6:45:59 PM 1 Ethvlbenzene ND 0.050 mg/Kg 1 12/9/2022 6:45:59 PM Xylenes, Total ND 0.10 mg/Kg 1 12/9/2022 6:45:59 PM Surr: 1.2-Dichloroethane-d4 94.3 70-130 %Rec 1 12/9/2022 6:45:59 PM Surr: 4-Bromofluorobenzene 98.5 70-130 %Rec 1 12/9/2022 6:45:59 PM Surr: Dibromofluoromethane 106 70-130 %Rec 1 12/9/2022 6:45:59 PM Surr: Toluene-d8 106 70-130 %Rec 1 12/9/2022 6:45:59 PM

#### **EPA METHOD 8015D MOD: GASOLINE RANGE** Gasoline Range Organics (GRO) ND 12/9/2022 6:45:59 PM 5.0 mg/Kg 1 Surr: BFB 93.2 70-130 %Rec 1 12/9/2022 6:45:59 PM

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

**Qualifiers:** 

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

RL

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Analyst: RAA

Surr: Toluene-d8

Surr: BFB

Gasoline Range Organics (GRO)

**EPA METHOD 8015D MOD: GASOLINE RANGE** 

**Analytical Report** Lab Order 2212446

Date Reported: 12/16/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-11 0' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 9:40:00 AM Lab ID: 2212446-005 Matrix: SOIL Received Date: 12/8/2022 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) ND 14 mg/Kg 1 12/12/2022 9:11:31 PM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 12/12/2022 9:11:31 PM Surr: DNOP 103 21-129 %Rec 1 12/12/2022 9:11:31 PM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride ND 60 12/14/2022 5:06:19 PM mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.025 mg/Kg 12/9/2022 7:12:59 PM 1 Toluene ND 0.049 mg/Kg 12/9/2022 7:12:59 PM 1 Ethvlbenzene ND 0.049 mg/Kg 1 12/9/2022 7:12:59 PM Xylenes, Total ND 0.099 mg/Kg 1 12/9/2022 7:12:59 PM Surr: 1.2-Dichloroethane-d4 94.6 70-130 %Rec 1 12/9/2022 7:12:59 PM Surr: 4-Bromofluorobenzene 102 70-130 %Rec 1 12/9/2022 7:12:59 PM Surr: Dibromofluoromethane 70-130 %Rec 1 12/9/2022 7:12:59 PM 112

104

ND

91.9

70-130

70-130

49

%Rec

mg/Kg

%Rec

1

1

1

12/9/2022 7:12:59 PM

12/9/2022 7:12:59 PM

12/9/2022 7:12:59 PM

Analyst: RAA

#### Refer to the QC Summary 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

Not Detected at the Reporting Limit

ND POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

Е Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 5 of 19

Date Reported: 12/16/2022

12/9/2022 7:39:59 PM

12/9/2022 7:39:59 PM

12/9/2022 7:39:59 PM

12/9/2022 7:39:59 PM

Analyst: RAA

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-11 2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 9:45:00 AM Lab ID: 2212446-006 Matrix: SOIL Received Date: 12/8/2022 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) ND 14 mg/Kg 1 12/12/2022 9:24:47 PM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 12/12/2022 9:24:47 PM Surr: DNOP 21-129 %Rec 1 12/12/2022 9:24:47 PM 111 **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride 75 12/14/2022 5:43:32 PM 60 mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.025 mg/Kg 12/9/2022 7:39:59 PM 1 Toluene ND 0.049 mg/Kg 12/9/2022 7:39:59 PM 1 Ethvlbenzene ND 0.049 mg/Kg 1 12/9/2022 7:39:59 PM Xylenes, Total ND 0.098 mg/Kg 1 12/9/2022 7:39:59 PM Surr: 1.2-Dichloroethane-d4 89.3 70-130 %Rec 1 12/9/2022 7:39:59 PM Surr: 4-Bromofluorobenzene 98.6 70-130 %Rec 1 12/9/2022 7:39:59 PM

89.2

#### Surr: Dibromofluoromethane 106 70-130 Surr: Toluene-d8 105 70-130 **EPA METHOD 8015D MOD: GASOLINE RANGE** Gasoline Range Organics (GRO) ND

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

**Qualifiers:** 

Surr: BFB

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

%Rec

%Rec

mg/Kg

%Rec

49

70-130

1

1

1

1

Р Sample pH Not In Range RL Reporting Limit

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Date Reported: 12/16/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-12 0' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 10:05:00 AM Lab ID: 2212446-007 Matrix: SOIL Received Date: 12/8/2022 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) ND 14 mg/Kg 1 12/12/2022 9:38:08 PM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 12/12/2022 9:38:08 PM Surr: DNOP 107 21-129 %Rec 1 12/12/2022 9:38:08 PM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride 680 60 12/14/2022 6:45:34 PM mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.024 mg/Kg 12/9/2022 8:06:58 PM 1 Toluene ND 0.048 mg/Kg 12/9/2022 8:06:58 PM 1 Ethvlbenzene ND 0.048 mg/Kg 1 12/9/2022 8:06:58 PM Xylenes, Total ND 0.097 mg/Kg 1 12/9/2022 8:06:58 PM Surr: 1.2-Dichloroethane-d4 96.7 70-130 %Rec 1 12/9/2022 8:06:58 PM Surr: 4-Bromofluorobenzene 101 70-130 %Rec 1 12/9/2022 8:06:58 PM Surr: Dibromofluoromethane 70-130 %Rec 1 12/9/2022 8:06:58 PM 118 Surr: Toluene-d8 108 70-130 %Rec 1 12/9/2022 8:06:58 PM **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/9/2022 8:06:58 PM 48 mg/Kg 1 Surr: BFB

94.4

70-130

%Rec

1

12/9/2022 8:06:58 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

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- POL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank в
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

Analytical Report
Lab Order 2212446

Date Reported: 12/16/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-12 2' Collection Date: 12/6/2022 10:10:00 AM Received Date: 12/8/2022 7:20:00 AM

Lab ID: 2212446-008	Matrix: SOIL	Recei	ved Date:	12/8/2	022 7:20:00 AM
Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	12/12/2022 9:51:30 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/12/2022 9:51:30 PM
Surr: DNOP	0	21-129 S	%Rec	1	12/12/2022 9:51:30 PM
EPA METHOD 300.0: ANIONS					Analyst: JTT
Chloride	ND	60	mg/Kg	20	12/14/2022 6:57:58 PM
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	12/9/2022 8:33:58 PM
Toluene	ND	0.050	mg/Kg	1	12/9/2022 8:33:58 PM
Ethylbenzene	ND	0.050	mg/Kg	1	12/9/2022 8:33:58 PM
Xylenes, Total	ND	0.099	mg/Kg	1	12/9/2022 8:33:58 PM
Surr: 1,2-Dichloroethane-d4	99.3	70-130	%Rec	1	12/9/2022 8:33:58 PM
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	12/9/2022 8:33:58 PM
Surr: Dibromofluoromethane	116	70-130	%Rec	1	12/9/2022 8:33:58 PM
Surr: Toluene-d8	104	70-130	%Rec	1	12/9/2022 8:33:58 PM
EPA METHOD 8015D MOD: GASOLI	NE RANGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/9/2022 8:33:58 PM
Surr: BFB	92.7	70-130	%Rec	1	12/9/2022 8:33:58 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
- The Net Detected of the Departies Limit
- NDNot Detected at the Reporting LimitPQLPractical 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: 12/16/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-13 0' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 10:25:00 AM Lab ID: 2212446-009 Matrix: SOIL Received Date: 12/8/2022 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) ND 15 mg/Kg 1 12/12/2022 10:04:48 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/12/2022 10:04:48 PM Surr: DNOP 106 21-129 %Rec 1 12/12/2022 10:04:48 PM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride 12/14/2022 7:10:23 PM 61 60 mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.024 mg/Kg 12/9/2022 9:00:58 PM 1 Toluene ND 0.049 mg/Kg 12/9/2022 9:00:58 PM 1 Ethvlbenzene ND 0.049 mg/Kg 1 12/9/2022 9:00:58 PM Xylenes, Total ND 0.097 mg/Kg 1 12/9/2022 9:00:58 PM Surr: 1.2-Dichloroethane-d4 88.8 70-130 %Rec 1 12/9/2022 9:00:58 PM Surr: 4-Bromofluorobenzene 97.5 70-130 %Rec 1 12/9/2022 9:00:58 PM Surr: Dibromofluoromethane 70-130 %Rec 1 12/9/2022 9:00:58 PM 112 Surr: Toluene-d8 105 70-130 %Rec 1 12/9/2022 9:00:58 PM **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/9/2022 9:00:58 PM 49 mg/Kg 1

90.6

70-130

%Rec

1

12/9/2022 9:00:58 PM

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

**Qualifiers:** 

Surr: BFB

Value exceeds Maximum Contaminant Level
 Sample Diluted Due to 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: 12/16/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-13 2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 10:30:00 AM Lab ID: 2212446-010 Matrix: SOIL Received Date: 12/8/2022 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) ND 15 mg/Kg 1 12/12/2022 10:17:59 PM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 12/12/2022 10:17:59 PM Surr: DNOP 109 21-129 %Rec 1 12/12/2022 10:17:59 PM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride ND 12/14/2022 7:22:47 PM 60 mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.025 mg/Kg 12/12/2022 3:30:46 PM 1 Toluene ND 0.050 mg/Kg 12/12/2022 3:30:46 PM 1 Ethvlbenzene ND 0.050 mg/Kg 1 12/12/2022 3:30:46 PM Xylenes, Total ND 0.099 mg/Kg 1 12/12/2022 3:30:46 PM Surr: 1.2-Dichloroethane-d4 98.5 70-130 %Rec 1 12/12/2022 3:30:46 PM Surr: 4-Bromofluorobenzene 97.3 70-130 %Rec 1 12/12/2022 3:30:46 PM Surr: Dibromofluoromethane 108 70-130 %Rec 1 12/12/2022 3:30:46 PM Surr: Toluene-d8 106 70-130 %Rec 1 12/12/2022 3:30:46 PM **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/12/2022 3:30:46 PM 5.0 mg/Kg 1 Surr: BFB 96.1 70-130 %Rec 1 12/12/2022 3:30:46 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 POL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank в
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range RL Reporting Limit

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Date Reported: 12/16/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-14 0' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 2:00:00 PM Lab ID: 2212446-011 Matrix: SOIL Received Date: 12/8/2022 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) ND 14 mg/Kg 1 12/12/2022 10:31:13 PM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 12/12/2022 10:31:13 PM Surr: DNOP 109 21-129 %Rec 1 12/12/2022 10:31:13 PM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride ND 60 12/14/2022 7:35:11 PM mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.024 mg/Kg 12/12/2022 3:57:54 PM 1 Toluene ND 0.049 mg/Kg 12/12/2022 3:57:54 PM 1 Ethvlbenzene ND 0.049 mg/Kg 1 12/12/2022 3:57:54 PM Xylenes, Total ND 0.097 mg/Kg 1 12/12/2022 3:57:54 PM Surr: 1.2-Dichloroethane-d4 88.9 70-130 %Rec 1 12/12/2022 3:57:54 PM Surr: 4-Bromofluorobenzene 97.9 70-130 %Rec 1 12/12/2022 3:57:54 PM Surr: Dibromofluoromethane 70-130 %Rec 1 12/12/2022 3:57:54 PM 118 Surr: Toluene-d8 110 70-130 %Rec 1 12/12/2022 3:57:54 PM Analyst: RAA

#### **EPA METHOD 8015D MOD: GASOLINE RANGE** Gasoline Range Organics (GRO) ND 12/12/2022 3:57:54 PM 49 mg/Kg 1 Surr: BFB 95.3 70-130 %Rec 1 12/12/2022 3:57:54 PM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

Е Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 11 of 19

Released to Imaging: 3/13/2024 10:44:45 AM

Date Reported: 12/16/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-14 2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/6/2022 2:05:00 PM Lab ID: 2212446-012 Matrix: SOIL Received Date: 12/8/2022 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) ND 14 mg/Kg 1 12/12/2022 10:44:30 PM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 12/12/2022 10:44:30 PM Surr: DNOP 109 21-129 %Rec 1 12/12/2022 10:44:30 PM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride ND 60 12/14/2022 7:47:35 PM mg/Kg 20 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: RAA Benzene ND 0.024 mg/Kg 12/12/2022 4:24:58 PM 1 Toluene ND 0.049 mg/Kg 12/12/2022 4:24:58 PM 1 Ethvlbenzene ND 0.049 mg/Kg 1 12/12/2022 4:24:58 PM Xylenes, Total ND 0.097 mg/Kg 1 12/12/2022 4:24:58 PM Surr: 1.2-Dichloroethane-d4 96.3 70-130 %Rec 1 12/12/2022 4:24:58 PM Surr: 4-Bromofluorobenzene 96.7 70-130 %Rec 1 12/12/2022 4:24:58 PM Surr: Dibromofluoromethane 70-130 %Rec 1 12/12/2022 4:24:58 PM 113 Surr: Toluene-d8 104 70-130 %Rec 1 12/12/2022 4:24:58 PM **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/12/2022 4:24:58 PM 49 mg/Kg 1 Surr: BFB 89.5 70-130 %Rec 1 12/12/2022 4:24:58 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

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

S

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

Analyte detected in the associated Method Blank в

Е Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 12 of 19

Client: Project:		Resources Servio t 17 Federal 001	ces, Inc.						
Sample ID:	MB-72081	SampType:	MBLK	Tes	tCode: EPA Meth	od 300.0: Anion	IS		
Client ID:	PBS	Batch ID:	72081	F	RunNo: <b>93288</b>				
Prep Date:	12/14/2022	Analysis Date:	12/14/2022	S	SeqNo: <b>3362629</b>	Units: mg/k	٢g		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC LowLin	nit HighLimit	%RPD	RPDLimit	Qual
Chloride		ND ´	1.5						
Sample ID:	LCS-72081	SampType:	LCS	Tes	tCode: EPA Meth	od 300.0: Anion	IS		
Client ID:	LCSS	Batch ID:	72081	F	RunNo: <b>93288</b>				
Prep Date:	12/14/2022	Analysis Date:	12/14/2022	S	SeqNo: <b>3362630</b>	Units: mg/k	٢g		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC LowLin	nit HighLimit	%RPD	RPDLimit	Qual
Chloride		15 <i>*</i>	1.5 15.00	0	96.9	90 110			

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to 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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2212446

16-Dec-22

Client: Vertex R	esources Ser	vices,	, Inc.							
Project: Tomcat 1	17 Federal 00	1								
Sample ID: LCS-71996	SampTyp	e: LC	S	Tes	Code: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch II	D: 719	996	R	unNo: 93	3225				
Prep Date: 12/9/2022	Analysis Date	e: 12	2/12/2022	S	eqNo: 33	360006	Units: %Red	•		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.2		5.000		124	21	129			
Sample ID: MB-71996	SampTyp	e: ME	BLK	Tes	Code: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch II	D: 719	996	R	unNo: 93	3225				
Prep Date: 12/9/2022	Analysis Date	e: 12	2/12/2022	S	eqNo: 33	360008	Units: %Red	•		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		122	21	129			
Sample ID: LCS-71999	SampTyp	e: LC	S	Tes	Code: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch II	D: 719	999	R	unNo: 93	3225				
Prep Date: 12/9/2022	Analysis Date	e: 12	2/12/2022	S	eqNo: 33	360523	Units: <b>mg/K</b>	g		
Analyte		PQL		SPK Ref Val		LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO) Surr: DNOP	47 5.9	15	50.00 5.000	0	95.0 119	64.4 21	127 129			
					-		-			
Sample ID: <b>MB-71999</b>	SampTyp	e: ME	BLK	Test	Code: EF	PA Method	2015M/D Di	seal Panad	Organice	
							OUTSINI/D. DR	eser ivallige	eorganics	
Client ID: PBS	Batch II				unNo: <b>9</b> 3	3225		-	eorganics	
Prep Date: 12/9/2022	Analysis Date	e: 12	2/12/2022	S	unNo: <b>93</b> eqNo: <b>33</b>	3225 360524	Units: <b>mg/K</b>	íg	-	
Prep Date: 12/9/2022 Analyte	Analysis Date Result	e: <b>12</b> PQL	2/12/2022		unNo: <b>93</b> eqNo: <b>33</b>	3225		-	RPDLimit	Qual
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO)	Analysis Date	e: 12	2/12/2022	S	unNo: <b>93</b> eqNo: <b>33</b>	3225 360524	Units: <b>mg/K</b>	íg	-	Qual
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO)	Analysis Date Result ND	e: <b>12</b> PQL 15	2/12/2022	S	unNo: <b>93</b> eqNo: <b>33</b>	3225 360524	Units: <b>mg/K</b>	íg	-	Qual
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	Analysis Date Result ND ND 11	e: <b>12</b> PQL 15 50	2/12/2022 SPK value 10.00	SPK Ref Val	unNo: 93 eqNo: 33 %REC 112	3225 360524 LowLimit 21	Units: <b>mg/K</b> HighLimit	<b>. %</b> RPD	RPDLimit	Qual
Prep Date: <b>12/9/2022</b> Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP	Analysis Date Result ND ND 11	e: <b>12</b> PQL 15 50 ee: <b>MS</b>	2/12/2022 SPK value 10.00	SPK Ref Val	unNo: 93 eqNo: 33 %REC 112	3225 360524 LowLimit 21 PA Method	Units: <b>mg/K</b> HighLimit 129	<b>. %</b> RPD	RPDLimit	Qual
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP Sample ID: 2212446-001AMS	Analysis Data Result ND ND 11 SampTyp	e: 12 PQL 15 50 De: MS D: 719	2/12/2022 SPK value 10.00	SPK Ref Val	iunNo: 93 ieqNo: 33 %REC 112 iCode: EF	3225 360524 LowLimit 21 PA Method 3225	Units: <b>mg/K</b> HighLimit 129	g %RPD	RPDLimit	Qual
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP Sample ID: 2212446-001AMS Client ID: BH22-09 0'	Analysis Date Result ND ND 11 SampTyp Batch II Analysis Date	e: 12 PQL 15 50 De: MS D: 719	2/12/2022 SPK value 10.00 5 9999 2/12/2022	SPK Ref Val	tunNo: 93 SeqNo: 33 %REC 112 Code: EF	3225 360524 LowLimit 21 PA Method 3225	Units: mg/K HighLimit 129 8015M/D: Die	g %RPD	RPDLimit	Qual
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP Sample ID: 2212446-001AMS Client ID: BH22-09 0' Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO)	Analysis Date Result ND ND 11 SampTyp Batch II Analysis Date Result 48	e: 12 PQL 15 50 De: MS D: 719 e: 12	2/12/2022 SPK value 10.00 3 9999 2/12/2022 SPK value 49.80	SPK Ref Val Test R S	tunNo: 93 ieqNo: 33 %REC 112 iCode: EF iunNo: 93 ieqNo: 33 %REC 97.2	3225 360524 LowLimit 21 PA Method 3225 360525 LowLimit 36.1	Units: mg/K HighLimit 129 8015M/D: Die Units: mg/K HighLimit 154	Gg %RPD esel Range	RPDLimit	
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP Sample ID: 2212446-001AMS Client ID: BH22-09 0' Prep Date: 12/9/2022 Analyte	Analysis Date Result ND ND 11 SampTyp Batch II Analysis Date Result	e: 12 PQL 15 50 De: MS D: 719 e: 12 PQL	2/12/2022 SPK value 10.00 5 999 2/12/2022 SPK value	SPK Ref Val Tesi R SPK Ref Val	tunNo: 93 ieqNo: 33 %REC 112 Code: EF cunNo: 93 ieqNo: 33 %REC	3225 360524 LowLimit 21 PA Method 3225 360525 LowLimit	Units: mg/K HighLimit 129 8015M/D: Die Units: mg/K HighLimit	Gg %RPD esel Range	RPDLimit	
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP Sample ID: 2212446-001AMS Client ID: BH22-09 0' Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID: 2212446-001AMS	Analysis Date Result ND ND 11 SampTyp Batch II Analysis Date Result 48 6.4	e: 12 PQL 15 50 De: MS D: 719 e: 12 PQL 15	2/12/2022 SPK value 10.00 3 9999 2/12/2022 SPK value 49.80 4.980	SPK Ref Val Test R SPK Ref Val 0	aqNo: 93 aqNo: 33 %REC 112 Code: EF aqNo: 93 aqNo: 33 %REC 97.2 128	3225 360524 LowLimit 21 24 A Method 3225 360525 LowLimit 36.1 21	Units: mg/K HighLimit 129 8015M/D: Die Units: mg/K HighLimit 154	g %RPD esel Range	RPDLimit	
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP Sample ID: 2212446-001AMS Client ID: BH22-09 0' Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID: 2212446-001AMS Client ID: BH22-09 0'	Analysis Date Result ND ND 11 SampTyp Batch II Analysis Date Result 48 6.4 D SampTyp Batch II	e: 12 PQL 15 50 e: MS D: 719 e: 12 PQL 15 D: 719 D: 719	2/12/2022 SPK value 10.00 3 9999 2/12/2022 SPK value 49.80 4.980 5D 9999	SPK Ref Val Test SPK Ref Val 0 Test	aqNo: 93 aqNo: 33 %REC 112 Code: EF aqNo: 93 aqNo: 33 %REC 97.2 128	3225 360524 LowLimit 21 PA Method 3225 360525 LowLimit 36.1 21 PA Method	Units: mg/K HighLimit 129 8015M/D: Die Units: mg/K HighLimit 154 129	g %RPD esel Range	RPDLimit	
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP Sample ID: 2212446-001AMS Client ID: BH22-09 0' Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID: 2212446-001AMS	Analysis Date Result ND ND 11 SampTyp Batch II Analysis Date Result 48 6.4 D SampTyp	e: 12 PQL 15 50 e: MS D: 719 e: 12 PQL 15 D: 719 D: 719	2/12/2022 SPK value 10.00 3 9999 2/12/2022 SPK value 49.80 4.980 5D 9999	SPK Ref Val	tunNo: 93 ieqNo: 33 %REC 112 Code: EF iunNo: 93 ieqNo: 33 %REC 97.2 128 iCode: EF	3225 360524 LowLimit 21 24 24 24 25 360525 LowLimit 36.1 21 24 36.2 24 36.2 24 3625 360525 26 27 20 27 27 28 29 20 20 20 20 20 20 20 20 20 20	Units: mg/K HighLimit 129 8015M/D: Die Units: mg/K HighLimit 154 129	Gg %RPD esel Range Gg %RPD esel Range	RPDLimit	
Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP Sample ID: 2212446-001AMS Client ID: BH22-09 0' Prep Date: 12/9/2022 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID: 2212446-001AMS Client ID: BH22-09 0'	Analysis Date Result ND ND 11 SampTyp Batch II Analysis Date 48 6.4 D SampTyp Batch II Analysis Date	e: 12 PQL 15 50 e: MS D: 719 e: 12 PQL 15 D: 719 D: 719	2/12/2022 SPK value 10.00 3 9999 2/12/2022 SPK value 49.80 4.980 3 5 9999 2/12/2022	SPK Ref Val	tunNo: 93 ieqNo: 33 %REC 112 iCode: EF tunNo: 93 ieqNo: 33 %REC 97.2 128 iCode: EF tunNo: 93	3225 360524 LowLimit 21 24 24 24 25 360525 LowLimit 36.1 21 24 36.2 24 36.2 24 3625 360525 26 27 20 27 27 28 29 20 20 20 20 20 20 20 20 20 20	Units: mg/K HighLimit 129 8015M/D: Die Units: mg/K HighLimit 154 129 8015M/D: Die	Gg %RPD esel Range Gg %RPD esel Range	RPDLimit	

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to 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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	Resources Service 17 Federal 001	es, Inc.							
Sample ID: 2212446-001AM	SD SampType:	MSD	Tes	tCode: EP	A Method	8015M/D: Die	esel Range	e Organics	
Client ID: BH22-09 0'	Batch ID:	71999	R	RunNo: <b>93</b>	225				
Prep Date: 12/9/2022	Analysis Date:	12/12/2022	S	SeqNo: 33	60526	Units: mg/K	(g		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.4	4.241		128	21	129	0	0	
Sample ID: MB-71989	SampType:	MBLK	Tes	tCode: EP	A Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch ID:	71989	R	RunNo: <b>93</b>	210				
Prep Date: 12/9/2022	Analysis Date:	12/12/2022	S	SeqNo: 33	61735	Units: mg/K	(g		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		15							
Motor Oil Range Organics (MRO)	ND 5	50							
Surr: DNOP	11	10.00		108	21	129			
Sample ID: LCS-71989	SampType:	LCS	Tes	tCode: EP	A Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch ID:	71989	R	RunNo: <b>93</b>	210				
Prep Date: 12/9/2022	Analysis Date:	12/12/2022	S	SeqNo: 33	61736	Units: mg/K	(g		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47 1	50.00	0	94.3	64.4	127			
Surr: DNOP	5.0	5.000		101	21	129			

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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
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Client: Vertex F	Resources Services, Inc.						
Project: Tomcat	17 Federal 001						
Sample ID: Ics-71958	SampType: LCS	Te	stCode: EPA Method	8015D: Gasoli	ne Rang	9	
Client ID: LCSS	Batch ID: 71958		RunNo: <b>93221</b>				
Prep Date: 12/8/2022	Analysis Date: 12/12/20	022	SeqNo: <b>3359719</b>	Units: mg/Kg	l		
Analyte	Result PQL SPK	value SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25 5.0 2	25.00 0	99.8 72.3	137			
Surr: BFB	1900	1000	186 37.7	212			
Sample ID: Ics-71979	SampType: LCS	Te	stCode: EPA Method	8015D: Gasoli	ne Range	e	
Client ID: LCSS	Batch ID: 71979		RunNo: <b>93221</b>				
Prep Date: 12/9/2022	Analysis Date: 12/12/20	)22	SeqNo: <b>3359720</b>	Units: %Rec			
Analyte	Result PQL SPK	value SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900	1000	194 37.7	212			
Sample ID: mb-71958	SampType: MBLK	Те	stCode: EPA Method	8015D: Gasoli	ne Rang	e	
Client ID: PBS	Batch ID: 71958		RunNo: <b>93221</b>				
Prep Date: 12/8/2022	Analysis Date: 12/12/20	)22	SeqNo: <b>3359721</b>	Units: mg/Kg	l		
Prep Date: <b>12/8/2022</b> Analyte	-	<b>)22</b> value SPK Ref Val	•	0.0	%RPD	RPDLimit	Qual
Analyte	-		%REC LowLimit	0.0	·	RPDLimit	Qual
	Result PQL SPK ND 5.0		•	0.0	·	RPDLimit	Qual
Analyte Gasoline Range Organics (GRO)	Result PQL SPK ND 5.0	value SPK Ref Val	%REC LowLimit	HighLimit 212	%RPD		Qual
Analyte Gasoline Range Organics (GRO) Surr: BFB	Result PQL SPK ND 5.0 880	value SPK Ref Val 1000 Te	* * * * * * * * * * * * * * * * * * *	HighLimit 212	%RPD		Qual
Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID: <b>mb-71979</b>	Result     PQL     SPK       ND     5.0       880   SampType: MBLK	value SPK Ref Val 1000 Te	%REC LowLimit 88.1 37.7 stCode: EPA Method	HighLimit 212	%RPD		Qual
Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID: <b>mb-71979</b> Client ID: <b>PBS</b>	ResultPQLSPKND5.0880SampType:MBLKBatch ID:71979Analysis Date:12/12/20	value SPK Ref Val 1000 Te	%REC         LowLimit           88.1         37.7           stCode:         EPA Method           RunNo:         93221           SeqNo:         3359722	HighLimit 212 8015D: Gasoli Units: %Rec	%RPD		Qual

Qualifiers:

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	esources Service	es, Inc.							
							<u> </u>		
Sample ID: LCS-71958	SampType: I					8021B: Volati	les		
Client ID: LCSS	Batch ID: 7	1958	F	RunNo: 93	3221				
Prep Date: 12/8/2022	Analysis Date:	12/12/2022	5	SeqNo: 3	360087	Units: mg/K	g		
Analyte	Result PQL	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94 0.02	5 1.000	0	94.1	80	120			
Toluene	0.95 0.05	0 1.000	0	95.4	80	120			
Ethylbenzene	0.95 0.05	0 1.000	0	95.4	80	120			
Xylenes, Total	2.9 0.1	0 3.000	0	95.9	80	120			
Surr: 4-Bromofluorobenzene	0.88	1.000		88.5	70	130			
Sample ID: LCS-71979	SampType: I	.CS	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batch ID: 7	<b>'1979</b>	F	RunNo: 93	3221				
Prep Date: 12/9/2022	Analysis Date:	12/12/2022	S	SeqNo: 3	360088	Units: %Rec	;		
Analyte	Result PQL	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.89	1.000		89.3	70	130			
Sample ID: mb-71958	SampType:	/IBLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: PBS	Batch ID: 7	1958	F	RunNo: 93	3221				
Prep Date: 12/8/2022	Analysis Date:	12/12/2022	S	SeqNo: 3	360089	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND 0.02	5							
Toluene	ND 0.05	0							
Ethylbenzene	ND 0.05	0							
Xylenes, Total	ND 0.1	0							
Surr: 4-Bromofluorobenzene	0.88	1.000		88.2	70	130			
Sample ID: mb-71979	SampType:	/IBLK	Tes	tCode: EF	PA Method	8021B: Volati	les		
•••••••••••••••••••••••••••••••••••••••									
Client ID: PBS	Batch ID: 7	1979	F	RunNo: 93	3221				
				RunNo: <b>9</b> 3 SeqNo: <b>3</b> 3		Units: %Rec	:		
Client ID: PBS	Batch ID: 7	12/12/2022				Units: <b>%Rec</b> HighLimit	%RPD	RPDLimit	Qual

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Client: V	ertex Resources S	Services,	Inc.							
Project: T	omcat 17 Federal	001								
Sample ID: LCS-7196	52 Samp	Туре: <b>LC</b>	S4	Tes	tCode: El	PA Method	8260B: Volat	iles Short	List	
Client ID: BatchQC	Bato	h ID: 71	962	F	unNo: <b>9</b>	3195				
Prep Date: 12/8/202	Analysis	Date: 12	2/9/2022	S	eqNo: 3	358165	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	106	80	120			
Toluene	1.2	0.050	1.000	0	116	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Kylenes, Total	3.3	0.10	3.000	0	111	80	120			
Surr: 1,2-Dichloroethane-	d4 0.46		0.5000		92.8	70	130			
Surr: 4-Bromofluorobenze	ene 0.48		0.5000		96.3	70	130			
Surr: Dibromofluorometha	ane 0.50		0.5000		100	70	130			
Surr: Toluene-d8	0.54		0.5000		107	70	130			
Sull. Toluelle-uo	0.04									
Sample ID: mb-71962		Туре: <b>МЕ</b>		Tes	tCode: El	PA Method	8260B: Volat	iles Short	List	
	2 Samp	Type: <b>ME</b> :h ID: <b>71</b> !	BLK		tCode: El		8260B: Volat	iles Short	List	
Sample ID: mb-71962	2 Samp Bato	ch ID: 71	3LK 962	F		3195	8260B: Volat Units: mg/K		List	
Sample ID: mb-71962 Client ID: PBS	2 Samp Bato	ch ID: 71	BLK 962 2/9/2022	F	unNo: <b>9</b> :	3195			List RPDLimit	Qual
Sample ID: mb-71962 Client ID: PBS Prep Date: 12/8/202	2 Samp Bato 2 Analysis	bh ID: 719 Date: 12	BLK 962 2/9/2022	F S	tunNo: <b>9</b> : SeqNo: <b>3</b> :	3195 358166	Units: mg/K	g		Qual
Sample ID: mb-71962 Client ID: PBS Prep Date: 12/8/202 Analyte	2 Samp Bato 2 Analysis Result	ch ID: <b>71</b> 9 Date: <b>12</b> PQL	BLK 962 2/9/2022	F S	tunNo: <b>9</b> : SeqNo: <b>3</b> :	3195 358166	Units: mg/K	g		Qual
Sample ID: mb-71962 Client ID: PBS Prep Date: 12/8/202 Analyte Benzene	2 Samp Bato 2 Analysis Result ND	ch ID: <b>71</b> 9 Date: <b>12</b> PQL 0.025	BLK 962 2/9/2022	F S	tunNo: <b>9</b> : SeqNo: <b>3</b> :	3195 358166	Units: mg/K	g		Qual
Sample ID: mb-71962 Client ID: PBS Prep Date: 12/8/202 Analyte Benzene Toluene	2 Samp Bato 2 Analysis Result ND ND	ch ID: 719 Date: 12 PQL 0.025 0.050	BLK 962 2/9/2022	F S	tunNo: <b>9</b> : SeqNo: <b>3</b> :	3195 358166	Units: mg/K	g		Qual
Sample ID: mb-71962 Client ID: PBS Prep Date: 12/8/202 Analyte Benzene Foluene Ethylbenzene	2 Samp Bato 22 Analysis Result ND ND ND ND	ch ID: <b>71</b> 9 Date: <b>12</b> <u>PQL</u> 0.025 0.050 0.050	BLK 962 2/9/2022	F S	tunNo: <b>9</b> : SeqNo: <b>3</b> :	3195 358166	Units: mg/K	g		Qual
Sample ID: mb-71962 Client ID: PBS Prep Date: 12/8/202 Analyte Benzene Foluene Ethylbenzene Kylenes, Total	2 Samp Bato 22 Analysis Result ND ND ND ND ND ND	ch ID: <b>71</b> 9 Date: <b>12</b> <u>PQL</u> 0.025 0.050 0.050	3LK 962 2/9/2022 SPK value	F S	2unNo: <b>9</b> : SeqNo: <b>3</b> : <u>%REC</u>	3195 358166 LowLimit	Units: <b>mg/K</b> HighLimit	g		Qual
Sample ID: mb-71962 Client ID: PBS Prep Date: 12/8/202 Analyte Benzene Toluene Ethylbenzene Kylenes, Total Surr: 1,2-Dichloroethane-	2 Samp Bate 2 Analysis Result ND ND ND ND ND 0.49 ene 0.50	ch ID: <b>71</b> 9 Date: <b>12</b> <u>PQL</u> 0.025 0.050 0.050	3LK 962 2/9/2022 SPK value 0.5000	F S	2unNo: 9: GeqNo: 3: <u>%REC</u> 97.1	3195 358166 LowLimit	Units: <b>mg/K</b> HighLimit 130	g		Qual

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16-Dec-22

	Resources Solorial (	,	Inc.							
Sample ID: LCS-71962	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline	Range	
Client ID: LCSS	Batch	n ID: 719	962	F	RunNo: <b>9</b>	3195				
Prep Date: 12/8/2022	Analysis D	ate: 12	2/9/2022	S	SeqNo: 3	358133	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	105	70	130			
Surr: BFB	490		500.0		97.3	70	130			
Sample ID: mb-71962	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline	Range	
Client ID: PBS	Batch	n ID: 719	962	F	RunNo: <b>9</b> :	3195				
Prep Date: 12/8/2022	Analysis D	ate: 12	2/9/2022	S	SeqNo: 3	358134	Units: <b>mg/K</b>	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	460		500.0		91.8	70	130			

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2212446

16-Dec-22

HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-3975	4901 Hawkins uquerque. NM 87	NE 109 San 107	nple Log-In Che	ck List
Client Name: Vertex Resources Services, Inc.	Work Order Number	: 2212446		RcptNo: 1	
Received By: Tracy Casarrubias	12/8/2022 7:20:00 AM	l			
Completed By: Tracy Casarrubias	12/8/2022 8:28:17 AM				
Reviewed By: 7N1218122					
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 samples?		Yes 🗹	No 🗌		
4. Were all samples received at a temperature	of >0° C to 6.0°C	Yes 🔽	No 🗌	NA 🗌	
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
6. Sufficient sample volume for indicated test(s)	?	Yes 🗹	No 🗌		
7. Are samples (except VOA and ONG) properly	y 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 🗌		
10. Were any sample containers received broker	n?	Yes	No 🔽	# . f	/
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗌	# of preserved bottles checked for pH: (>2 or >12	unless noted)
12. Are matrices correctly identified on Chain of 0	Custody?	Yes 🗹	No 🗌	Adjusted?	,
13. Is it clear what analyses were requested?		Yes 🗹	No 🗌		1 1 10
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No 🗌	Checked by: KPG	12.08.22
Special Handling (if applicable) 15. Was client notified of all discrepancies with t	hin order?	Yes	No 🗍	NA 🗹	
			No ∐	NA 🕑	
Person Notified: By Whom:	Date:   ────────────────────────────────────	eMail 🗍 Pł	none 🗌 Fax	In Person	
Regarding:	via. [				
Client Instructions:	All the second second second second second				
16. Additional remarks:					
17. <u>Cooler Information</u> Cooler No Temp °C Condition Se	al Intact Seal No S	Seal Date	Signed By		
1 1.2 Good Yes			J		

Released to Imaging: 3/13/2024 10:44:45 AM

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

•

Received	-08D	3672021	Received@MSTM3672@USYOOGMARCOrd	Turn-Around Time:	Time:				_		-		Ê			Page 18.	Page 182 of 309
Client:		Vertex		Standard	🕅 Rush	5 Daw				ANAL		ANAL ENVI			N N N	- C	PV PV
		(direct bi	(direct bill to Devon)	Project Name:						MMM	haller	www.hallenvironmental.com		l.com			
Mailing Address:	Addres			Tomcat 17 F	Tomcat 17 Federal #001			4901	Hawk	4901 Hawkins NE		Ibuau	eraue	Albuqueraue. NM 87109	37109		
				Project #:				Te.	505-3	Tel. 505-345-3975	10	Fax	505-3	505-345-4107	07		
Phone #:				22E-02816-27	Li						Ana		Requ	lest			
email or Fax#:	Fax#:			Project Manager:	ager:		(	(C	_		10	Þ		(tr		-	E
QA/QC Package:	ackage:			Kent Stallings	S		1208		60	SM	S V	0 14		pser			
Standard	lard		Level 4 (Full Validation)	<u>kstallings@vertex</u>	ertex.ca		3) s'		<u> </u>	liso	Ы			A\tr			
Accreditation:	ation:		mpliance	Sampler:	L.Puliman		1MB				'O'	17-1		ləsə			
	Q	Dther		On Ice:	VY Yes DNo		. /						(AC	<u>(</u> Pr			
	(Type)			# of Coolers:	-		38						) <b>∧</b> -	ա			
				Cooler Temp(including CF): 1	0(including CF): 1.3-0.1	1.2.1 -1	LM						iməć	oìilo			
Date 1	Time	Matrix	Sample Name	Container Type and #	Preservative H	HEAL No.	X TEX /	08:H9T 		d eHAq	CIJE, E	N) 0928	S) 0728	Total C			
12/06/22	9:20	Soil	BH22-09 0'	1, 4oz jar	18		<u> </u>				4	-					
12/06/22	9:25	Soil	BH22-09 2'	1, 4oz jar	200			×									
12/06/22	9:30	Soil	BH22-10 0'	1, 4oz jar	500		×				×						
12/06/22	9:35	Soil	BH22-10 2'	1, 4oz jar	604			×			×						
12/06/22	9:40	Soil	BH22-11 0'	1, 4oz jar	200			×			×						
12/06/22	9:45	Soil	BH22-11 2'	1, 4oz jar	900		-	×			×						
12/06/22	10:05	Soil	BH22-12 0'	1, 4oz jar	100		×	×			×			-			
12/06/22	10:10	Soil	BH22-12 2'	1, 4oz jar	004			×			×						
12/06/22	10:25	Soil	BH22-13 0'	1, 4oz jar	000		×	×			×						
12/06/22	10:30	Soil	BH22-13 2'	1, 4oz jar	010			×			×						
12/06/22	14:00	Soil	BH22-14 0'	1, 4oz jar	011		×	×			×						
/22	14:05	Soil	BH22-14 2'	1, 4oz jar	210		×	×			×						
Date: Time:		Relinquished by	ed by:	Received by:	ate	Time	Remarks	arks:				]					
		Jarla Tul	han	annin	IL. an	0al 22	Direc	t bill tallin	to De	von, l	Dale V	Direct bill to Devon, Dale Woodall	all vod le	t			
Late:	ime:	Relinquished by:		Received by:	Viercam Date	F	Ś		a) en	ACITC			al he	100			
0061 40/4	900		amin ?	d	12/8/22	02:E 221										1/1	
If n	lecessary.	samples subr	Envire				lidioood	Anu	000 4.1		1110-00						



January 30, 2023

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

RE: Tomcat 17 Federal 001

OrderNo.: 2301712

Hall Environmental Analysis Laboratory

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

Website: www.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 37 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Project:** 

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

**Analytical Report** Lab Order 2301712

Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-15 0' Collection Date: 1/16/2023 10:25:00 AM Received Date: 1/19/2023 7:20:00 AM

Lab ID: 2301712-001	Matrix: SOIL	<b>Received Date:</b> 1/19/2023 7:20:00 AM				
Analyses	Result	RL Qua	al Units	DF	Date Analyzed	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: DGH	
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/23/2023 11:44:21 PM	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/23/2023 11:44:21 PM	
Surr: DNOP	110	69-147	%Rec	1	1/23/2023 11:44:21 PM	
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst: JJP	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 1:48:03 PM	
Surr: BFB	103	37.7-212	%Rec	1	1/21/2023 1:48:03 PM	
EPA METHOD 8021B: VOLATILES					Analyst: JJP	
Benzene	ND	0.024	mg/Kg	1	1/21/2023 1:48:03 PM	
Toluene	ND	0.049	mg/Kg	1	1/21/2023 1:48:03 PM	
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 1:48:03 PM	
Xylenes, Total	ND	0.097	mg/Kg	1	1/21/2023 1:48:03 PM	
Surr: 4-Bromofluorobenzene	98.2	70-130	%Rec	1	1/21/2023 1:48:03 PM	
EPA METHOD 300.0: ANIONS					Analyst: NAI	
Chloride	ND	61	mg/Kg	20	1/21/2023 6:31:13 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

Not Detected at the Reporting Limit

ND PQL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- Above Quantitation Range/Estimated Value Е
- J Analyte detected below quantitation limits

Р Sample pH Not In Range Reporting Limit

RL

Page 1 of 44

Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-15 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 10:30:00 AM Lab ID: 2301712-002 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.8 mg/Kg 1 1/23/2023 11:54:53 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/23/2023 11:54:53 PM 69-147 Surr: DNOP 109 %Rec 1 1/23/2023 11:54:53 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 2:34:37 PM 5.0 mg/Kg 1 Surr: BFB 106 37.7-212 %Rec 1 1/21/2023 2:34:37 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/21/2023 2:34:37 PM 1 Toluene ND 0.050 mg/Kg 1 1/21/2023 2:34:37 PM Ethylbenzene ND 0.050 mg/Kg 1 1/21/2023 2:34:37 PM Xylenes, Total ND 0.10 mg/Kg 1 1/21/2023 2:34:37 PM Surr: 4-Bromofluorobenzene 101 70-130 %Rec 1 1/21/2023 2:34:37 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 59 1/21/2023 7:08:14 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. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit POL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.

Analyte detected in the associated Method Blank в

- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

Reporting Limit RL

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Date Reported: 1/30/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-16 0' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 10:35:00 AM Lab ID: 2301712-003 Matrix: SOIL Received Date: 1/19/2023 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) ND 8.8 mg/Kg 1 1/24/2023 12:05:25 AM Motor Oil Range Organics (MRO) ND 44 mg/Kg 1 1/24/2023 12:05:25 AM 69-147 Surr: DNOP 130 %Rec 1 1/24/2023 12:05:25 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 2:57:56 PM 4.9 mg/Kg 1 Surr: BFB 104 37.7-212 %Rec 1 1/21/2023 2:57:56 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/21/2023 2:57:56 PM 1 Toluene ND 0.049 mg/Kg 1 1/21/2023 2:57:56 PM Ethylbenzene ND 0.049 mg/Kg 1 1/21/2023 2:57:56 PM Xylenes, Total ND 0.099 mg/Kg 1 1/21/2023 2:57:56 PM Surr: 4-Bromofluorobenzene 99.0 70-130 %Rec 1 1/21/2023 2:57:56 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/21/2023 7:45:15 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. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit POL
  - Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

Reporting Limit RL

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Date Reported: 1/30/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-16 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 10:40:00 AM Lab ID: 2301712-004 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.6 mg/Kg 1 1/24/2023 12:15:55 AM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 1/24/2023 12:15:55 AM 69-147 Surr: DNOP 103 %Rec 1 1/24/2023 12:15:55 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 3:21:16 PM 5.0 mg/Kg 1 Surr: BFB 104 37.7-212 %Rec 1 1/21/2023 3:21:16 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/21/2023 3:21:16 PM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 1/21/2023 3:21:16 PM Ethylbenzene ND 0.050 mg/Kg 1 1/21/2023 3:21:16 PM Xylenes, Total ND 0.10 mg/Kg 1 1/21/2023 3:21:16 PM Surr: 4-Bromofluorobenzene 98.4 70-130 %Rec 1 1/21/2023 3:21:16 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/21/2023 7:57:35 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. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit POL
- Practical Quanitative Limit S

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

- Analyte detected in the associated Method Blank в
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

Reporting Limit RL

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Date Reported: 1/30/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-17 0' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 10:45:00 AM Lab ID: 2301712-005 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.7 mg/Kg 1 1/24/2023 12:26:24 AM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 1/24/2023 12:26:24 AM 69-147 Surr: DNOP 105 %Rec 1 1/24/2023 12:26:24 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 3:44:35 PM 4.9 mg/Kg 1 Surr: BFB 104 37.7-212 %Rec 1 1/21/2023 3:44:35 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/21/2023 3:44:35 PM 1 Toluene ND 0.049 mg/Kg 1 1/21/2023 3:44:35 PM Ethylbenzene ND 0.049 mg/Kg 1 1/21/2023 3:44:35 PM Xylenes, Total ND 0.098 mg/Kg 1 1/21/2023 3:44:35 PM Surr: 4-Bromofluorobenzene 98.5 70-130 %Rec 1 1/21/2023 3:44:35 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/21/2023 8:34:37 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-17 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 10:50:00 AM Lab ID: 2301712-006 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.8 mg/Kg 1 1/24/2023 12:47:20 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/24/2023 12:47:20 AM 69-147 Surr: DNOP 103 %Rec 1 1/24/2023 12:47:20 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 4:07:57 PM 4.9 mg/Kg 1 Surr: BFB 104 37.7-212 %Rec 1 1/21/2023 4:07:57 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/21/2023 4:07:57 PM 1 Toluene ND 0.049 mg/Kg 1 1/21/2023 4:07:57 PM Ethylbenzene ND 0.049 mg/Kg 1 1/21/2023 4:07:57 PM Xylenes, Total ND 0.098 mg/Kg 1 1/21/2023 4:07:57 PM 1/21/2023 4:07:57 PM Surr: 4-Bromofluorobenzene 98.2 70-130 %Rec 1 **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/21/2023 8:46:59 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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**Project:** 

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

**Analytical Report** Lab Order 2301712

Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-18 0' Collection Date: 1/16/2023 11:00:00 AM Received Date: 1/19/2023 7:20:00 AM

Lab ID:         2301712-007         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	ORGANICS				Analyst: DGH		
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/24/2023 12:57:52 AM		
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/24/2023 12:57:52 AM		
Surr: DNOP	99.6	69-147	%Rec	1	1/24/2023 12:57:52 AM		
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP		
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/21/2023 4:31:17 PM		
Surr: BFB	105	37.7-212	%Rec	1	1/21/2023 4:31:17 PM		
EPA METHOD 8021B: VOLATILES					Analyst: JJP		
Benzene	ND	0.024	mg/Kg	1	1/21/2023 4:31:17 PM		
Toluene	ND	0.049	mg/Kg	1	1/21/2023 4:31:17 PM		
Ethylbenzene	ND	0.049	mg/Kg	1	1/21/2023 4:31:17 PM		
Xylenes, Total	ND	0.097	mg/Kg	1	1/21/2023 4:31:17 PM		
Surr: 4-Bromofluorobenzene	98.9	70-130	%Rec	1	1/21/2023 4:31:17 PM		
EPA METHOD 300.0: ANIONS					Analyst: NAI		
Chloride	ND	60	mg/Kg	20	1/21/2023 8:59:20 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

н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

ND PQL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- Above Quantitation Range/Estimated Value Е
- J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 7 of 44

Date Reported: 1/30/2023

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-18 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 11:05:00 AM Lab ID: 2301712-008 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.9 mg/Kg 1 1/24/2023 1:08:23 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/24/2023 1:08:23 AM 69-147 Surr: DNOP 101 %Rec 1 1/24/2023 1:08:23 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 4:54:35 PM 4.8 mg/Kg 1 Surr: BFB 103 37.7-212 %Rec 1 1/21/2023 4:54:35 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.024 mg/Kg 1/21/2023 4:54:35 PM 1 Toluene ND 0.048 mg/Kg 1 1/21/2023 4:54:35 PM Ethylbenzene ND 0.048 mg/Kg 1 1/21/2023 4:54:35 PM Xylenes, Total ND 0.096 mg/Kg 1 1/21/2023 4:54:35 PM Surr: 4-Bromofluorobenzene 97.0 70-130 %Rec 1 1/21/2023 4:54:35 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/21/2023 9:11:40 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

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

Е Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

Reporting Limit RL

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Date Reported: 1/30/2023

1/21/2023 5:17:49 PM

1/21/2023 5:17:49 PM

1/21/2023 5:17:49 PM

1/21/2023 9:24:02 PM

Analyst: NAI

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-18 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 11:10:00 AM Lab ID: 2301712-009 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.4 mg/Kg 1 1/24/2023 1:18:48 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 1:18:48 AM 69-147 Surr: DNOP 100 %Rec 1 1/24/2023 1:18:48 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 5:17:49 PM 4.9 mg/Kg 1 Surr: BFB 105 37.7-212 %Rec 1 1/21/2023 5:17:49 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/21/2023 5:17:49 PM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/21/2023 5:17:49 PM

#### Ethylbenzene ND 0.049 mg/Kg Xylenes, Total ND 0.097 mg/Kg Surr: 4-Bromofluorobenzene 101 70-130 %Rec **EPA METHOD 300.0: ANIONS** Chloride ND 60 ma/Ka

Refer to the QC Summary 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

1

1

1

20

- 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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**Project:** 

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

**Analytical Report** Lab Order 2301712

Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-19 0' Collection Date: 1/16/2023 11:15:00 AM Received Date: 1/19/2023 7:20:00 AM

Lab ID: 2301712-010	Matrix: SOIL         Received Date: 1/19/2023 7:20:00 A			023 7:20:00 AM	
Analyses	Result	RL Qua	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 1:29:11 AM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/24/2023 1:29:11 AM
Surr: DNOP	104	69-147	%Rec	1	1/24/2023 1:29:11 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	1/21/2023 5:41:03 PM
Surr: BFB	104	37.7-212	%Rec	1	1/21/2023 5:41:03 PM
EPA METHOD 8021B: VOLATILES					Analyst: <b>JJP</b>
Benzene	ND	0.025	mg/Kg	1	1/21/2023 5:41:03 PM
Toluene	ND	0.050	mg/Kg	1	1/21/2023 5:41:03 PM
Ethylbenzene	ND	0.050	mg/Kg	1	1/21/2023 5:41:03 PM
Xylenes, Total	ND	0.10	mg/Kg	1	1/21/2023 5:41:03 PM
Surr: 4-Bromofluorobenzene	99.4	70-130	%Rec	1	1/21/2023 5:41:03 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	1/21/2023 9:36:22 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

н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

ND PQL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

Above Quantitation Range/Estimated Value Е

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 10 of 44

Date Reported: 1/30/2023

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-19 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 11:20:00 AM Lab ID: 2301712-011 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.5 mg/Kg 1 1/24/2023 1:39:32 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 1:39:32 AM 69-147 Surr: DNOP 99.0 %Rec 1 1/24/2023 1:39:32 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 6:04:18 PM 4.8 mg/Kg 1 Surr: BFB 103 37.7-212 %Rec 1 1/21/2023 6:04:18 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/21/2023 6:04:18 PM 0.024 mg/Kg 1 Toluene ND 0.048 mg/Kg 1 1/21/2023 6:04:18 PM Ethylbenzene ND 0.048 mg/Kg 1 1/21/2023 6:04:18 PM Xylenes, Total ND 0.096 mg/Kg 1 1/21/2023 6:04:18 PM 1/21/2023 6:04:18 PM Surr: 4-Bromofluorobenzene 97.7 70-130 %Rec 1 **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride 71 60 1/21/2023 9:48:43 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-19 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 11:25:00 AM Lab ID: 2301712-012 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.4 mg/Kg 1 1/24/2023 1:49:52 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 1:49:52 AM 69-147 Surr: DNOP 106 %Rec 1 1/24/2023 1:49:52 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 7:13:49 PM 5.0 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/21/2023 7:13:49 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/21/2023 7:13:49 PM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 1/21/2023 7:13:49 PM Ethylbenzene ND 0.050 mg/Kg 1 1/21/2023 7:13:49 PM Xylenes, Total ND 0.099 mg/Kg 1 1/21/2023 7:13:49 PM Surr: 4-Bromofluorobenzene 98.6 70-130 %Rec 1 1/21/2023 7:13:49 PM Analyst: NAI **EPA METHOD 300.0: ANIONS** Chloride 140 60 1/21/2023 10:01:03 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-20 0' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 11:30:00 AM Lab ID: 2301712-013 Matrix: SOIL Received Date: 1/19/2023 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) ND 10 mg/Kg 1 1/24/2023 2:00:10 AM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/24/2023 2:00:10 AM 69-147 Surr: DNOP 99.7 %Rec 1 1/24/2023 2:00:10 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 7:36:56 PM 4.9 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 1/21/2023 7:36:56 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/21/2023 7:36:56 PM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/21/2023 7:36:56 PM Ethylbenzene ND 0.049 mg/Kg 1 1/21/2023 7:36:56 PM Xylenes, Total ND 0.098 mg/Kg 1 1/21/2023 7:36:56 PM Surr: 4-Bromofluorobenzene 96.8 70-130 %Rec 1 1/21/2023 7:36:56 PM Analyst: NAI **EPA METHOD 300.0: ANIONS** Chloride ND 60 1/21/2023 10:13:24 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-20 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 11:35:00 AM Lab ID: 2301712-014 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.4 mg/Kg 1 1/24/2023 2:10:29 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 2:10:29 AM 69-147 Surr: DNOP 104 %Rec 1 1/24/2023 2:10:29 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 8:00:03 PM 4.9 mg/Kg 1 Surr: BFB 103 37.7-212 %Rec 1 1/21/2023 8:00:03 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/21/2023 8:00:03 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/21/2023 8:00:03 PM Ethylbenzene ND 0.049 mg/Kg 1 1/21/2023 8:00:03 PM Xylenes, Total ND 0.099 mg/Kg 1 1/21/2023 8:00:03 PM 1/21/2023 8:00:03 PM Surr: 4-Bromofluorobenzene 98.5 70-130 %Rec 1 **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/21/2023 10:25:44 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

Н Holding times for preparation or analysis exceeded

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

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Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-20 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 11:40:00 AM Lab ID: 2301712-015 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.8 mg/Kg 1 1/24/2023 2:20:48 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/24/2023 2:20:48 AM 69-147 Surr: DNOP 105 %Rec 1 1/24/2023 2:20:48 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 8:23:10 PM 4.9 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 1/21/2023 8:23:10 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/21/2023 8:23:10 PM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/21/2023 8:23:10 PM Ethylbenzene ND 0.049 mg/Kg 1 1/21/2023 8:23:10 PM Xylenes, Total ND 0.098 mg/Kg 1 1/21/2023 8:23:10 PM Surr: 4-Bromofluorobenzene 96.5 70-130 %Rec 1 1/21/2023 8:23:10 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/21/2023 11:02:45 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. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

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

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Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-21 0' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 8:05:00 AM Lab ID: 2301712-016 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.7 mg/Kg 1 1/24/2023 2:31:08 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/24/2023 2:31:08 AM 69-147 Surr: DNOP 107 %Rec 1 1/24/2023 2:31:08 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/21/2023 8:46:16 PM 5.0 mg/Kg 1 Surr: BFB 100 37.7-212 %Rec 1 1/21/2023 8:46:16 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/21/2023 8:46:16 PM 1 Toluene ND 0.050 mg/Kg 1 1/21/2023 8:46:16 PM Ethylbenzene ND 0.050 mg/Kg 1 1/21/2023 8:46:16 PM Xylenes, Total ND 0.10 mg/Kg 1 1/21/2023 8:46:16 PM 1/21/2023 8:46:16 PM Surr: 4-Bromofluorobenzene 95.9 70-130 %Rec 1 Analyst: NAI **EPA METHOD 300.0: ANIONS** Chloride 140 60 1/21/2023 11:15:07 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-21 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 8:10:00 AM Lab ID: 2301712-017 Matrix: SOIL Received Date: 1/19/2023 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) ND 10 mg/Kg 1 1/24/2023 2:51:45 AM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/24/2023 2:51:45 AM 69-147 Surr: DNOP 88.6 %Rec 1 1/24/2023 2:51:45 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/23/2023 11:23:40 PM 4.9 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/23/2023 11:23:40 PM **EPA METHOD 8021B: VOLATILES** Analyst: JJP 1/23/2023 11:23:40 PM Benzene ND 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/23/2023 11:23:40 PM Ethylbenzene ND 0.049 mg/Kg 1 1/23/2023 11:23:40 PM Xylenes, Total ND 0.099 mg/Kg 1 1/23/2023 11:23:40 PM Surr: 4-Bromofluorobenzene 95.5 70-130 %Rec 1 1/23/2023 11:23:40 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/24/2023 2:49:12 AM 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

Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- POL
- Practical Quanitative Limit S

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

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

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Released to Imaging: 3/13/2024 10:44:45 AM

**EPA METHOD 300.0: ANIONS** 

Chloride

**Analytical Report** Lab Order 2301712

Date Reported: 1/30/2023

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-21 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 8:15:00 AM Lab ID: 2301712-018 Matrix: SOIL Received Date: 1/19/2023 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) ND 10 mg/Kg 1 1/24/2023 3:23:14 AM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/24/2023 3:23:14 AM 69-147 Surr: DNOP 92.8 %Rec 1 1/24/2023 3:23:14 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 12:33:20 AM 4.9 mg/Kg 1 Surr: BFB 103 37.7-212 %Rec 1 1/24/2023 12:33:20 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/24/2023 12:33:20 AM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/24/2023 12:33:20 AM Ethylbenzene ND 0.049 mg/Kg 1 1/24/2023 12:33:20 AM Xylenes, Total ND 0.098 mg/Kg 1 1/24/2023 12:33:20 AM Surr: 4-Bromofluorobenzene 96.1 70-130 %Rec 1 1/24/2023 12:33:20 AM

ND

60

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. Sample Diluted Due to Matrix

D Н

- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit POL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank в
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits Р
- Sample pH Not In Range Reporting Limit RL

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Analyst: NAI

1/24/2023 3:01:34 AM

Date Reported: 1/30/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-22 0' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 8:20:00 AM Lab ID: 2301712-019 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.3 mg/Kg 1 1/24/2023 3:33:49 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 3:33:49 AM 69-147 Surr: DNOP 93.0 %Rec 1 1/24/2023 3:33:49 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 1:42:58 AM 4.8 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 1/24/2023 1:42:58 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.024 mg/Kg 1/24/2023 1:42:58 AM 1 Toluene ND 0.048 mg/Kg 1 1/24/2023 1:42:58 AM Ethylbenzene ND 0.048 mg/Kg 1 1/24/2023 1:42:58 AM Xylenes, Total ND 0.096 mg/Kg 1 1/24/2023 1:42:58 AM Surr: 4-Bromofluorobenzene 93.7 70-130 %Rec 1 1/24/2023 1:42:58 AM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/24/2023 3:13:56 AM 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. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit POL
  - Practical Quanitative Limit

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

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

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Date Reported: 1/30/2023

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-22 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 8:25:00 AM Lab ID: 2301712-020 Matrix: SOIL Received Date: 1/19/2023 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) ND 10 mg/Kg 1 1/24/2023 3:44:25 AM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/24/2023 3:44:25 AM 69-147 Surr: DNOP 93.5 %Rec 1 1/24/2023 3:44:25 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 2:06:07 AM 4.9 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/24/2023 2:06:07 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.024 mg/Kg 1/24/2023 2:06:07 AM 1 Toluene ND 0.049 mg/Kg 1 1/24/2023 2:06:07 AM Ethylbenzene ND 0.049 mg/Kg 1 1/24/2023 2:06:07 AM Xylenes, Total ND 0.098 mg/Kg 1 1/24/2023 2:06:07 AM Surr: 4-Bromofluorobenzene 95.1 70-130 %Rec 1 1/24/2023 2:06:07 AM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/24/2023 3:26:17 AM 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-22 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 8:30:00 AM Lab ID: 2301712-021 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.9 mg/Kg 1 1/26/2023 3:54:56 PM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/26/2023 3:54:56 PM Surr: DNOP 117 69-147 %Rec 1 1/26/2023 3:54:56 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 2:29:20 AM 4.9 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/24/2023 2:29:20 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/24/2023 2:29:20 AM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/24/2023 2:29:20 AM Ethylbenzene ND 0.049 mg/Kg 1 1/24/2023 2:29:20 AM Xylenes, Total ND 0.098 mg/Kg 1 1/24/2023 2:29:20 AM Surr: 4-Bromofluorobenzene 94.9 70-130 %Rec 1 1/24/2023 2:29:20 AM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride ND 60 1/24/2023 4:03:18 AM 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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**Project:** 

Lab ID:

CLIENT: Vertex Resources Services, Inc.

2301712-022

Tomcat 17 Federal 001

**Analytical Report** Lab Order 2301712

Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BH22-23 0' Collection Date: 1/17/2023 8:40:00 AM 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)	ND	8.7	mg/Kg	1	1/24/2023 4:05:54 AM
Motor Oil Range Organics (MRO)	ND	44	mg/Kg	1	1/24/2023 4:05:54 AM
Surr: DNOP	94.7	69-147	%Rec	1	1/24/2023 4:05:54 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/24/2023 2:52:32 AM
Surr: BFB	103	37.7-212	%Rec	1	1/24/2023 2:52:32 AM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.024	mg/Kg	1	1/24/2023 2:52:32 AM
Toluene	ND	0.049	mg/Kg	1	1/24/2023 2:52:32 AM
Ethylbenzene	ND	0.049	mg/Kg	1	1/24/2023 2:52:32 AM
Xylenes, Total	ND	0.098	mg/Kg	1	1/24/2023 2:52:32 AM
Surr: 4-Bromofluorobenzene	96.5	70-130	%Rec	1	1/24/2023 2:52:32 AM
EPA METHOD 300.0: ANIONS					Analyst: <b>JMT</b>
Chloride	ND	60	mg/Kg	20	1/24/2023 8:20:54 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

н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

ND PQL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

Above Quantitation Range/Estimated Value Е

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 22 of 44

Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-23 2' Collection Date: 1/17/2023 8:45:00 AM **Project:** Tomcat 17 Federal 001 Lab ID: 2301712-023 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.3 mg/Kg 1 1/24/2023 4:16:45 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 4:16:45 AM 69-147 Surr: DNOP 96.3 %Rec 1 1/24/2023 4:16:45 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 3:15:44 AM 5.0 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/24/2023 3:15:44 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/24/2023 3:15:44 AM 1 Toluene ND 0.050 mg/Kg 1 1/24/2023 3:15:44 AM Ethylbenzene ND 0.050 mg/Kg 1 1/24/2023 3:15:44 AM Xylenes, Total ND 0.099 mg/Kg 1 1/24/2023 3:15:44 AM Surr: 4-Bromofluorobenzene 95.0 70-130 %Rec 1 1/24/2023 3:15:44 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride ND 60 1/24/2023 8:33:15 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-23 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 8:50:00 AM Lab ID: 2301712-024 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.3 mg/Kg 1 1/24/2023 4:27:34 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 4:27:34 AM 69-147 Surr: DNOP 98.0 %Rec 1 1/24/2023 4:27:34 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 3:38:57 AM 4.9 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 1/24/2023 3:38:57 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/24/2023 3:38:57 AM 1 Toluene ND 0.049 mg/Kg 1 1/24/2023 3:38:57 AM Ethylbenzene ND 0.049 mg/Kg 1 1/24/2023 3:38:57 AM Xylenes, Total ND 0.099 mg/Kg 1 1/24/2023 3:38:57 AM Surr: 4-Bromofluorobenzene 94.7 70-130 %Rec 1 1/24/2023 3:38:57 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride ND 60 1/24/2023 8:45:35 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-24 0' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 8:55:00 AM Lab ID: 2301712-025 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.4 mg/Kg 1 1/24/2023 4:38:21 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 4:38:21 AM 69-147 Surr: DNOP 80.6 %Rec 1 1/24/2023 4:38:21 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 4:02:09 AM 4.8 mg/Kg 1 Surr: BFB 103 37.7-212 %Rec 1 1/24/2023 4:02:09 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/24/2023 4:02:09 AM 0.024 mg/Kg 1 Toluene ND 0.048 mg/Kg 1 1/24/2023 4:02:09 AM Ethylbenzene ND 0.048 mg/Kg 1 1/24/2023 4:02:09 AM Xylenes, Total ND 0.097 mg/Kg 1 1/24/2023 4:02:09 AM Surr: 4-Bromofluorobenzene 96.4 70-130 %Rec 1 1/24/2023 4:02:09 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride 61 60 1/24/2023 8:57:55 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

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

Е Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

Reporting Limit RL

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Released to Imaging: 3/13/2024 10:44:45 AM

Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-24 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 9:00:00 AM Lab ID: 2301712-026 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.7 mg/Kg 1 1/24/2023 4:59:36 AM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 1/24/2023 4:59:36 AM 69-147 Surr: DNOP 97.4 %Rec 1 1/24/2023 4:59:36 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 4:25:18 AM 5.0 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 1/24/2023 4:25:18 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/24/2023 4:25:18 AM 1 Toluene ND 0.050 mg/Kg 1 1/24/2023 4:25:18 AM Ethylbenzene ND 0.050 mg/Kg 1 1/24/2023 4:25:18 AM Xylenes, Total ND 0.10 mg/Kg 1 1/24/2023 4:25:18 AM Surr: 4-Bromofluorobenzene 95.0 70-130 %Rec 1 1/24/2023 4:25:18 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride ND 60 1/24/2023 9:34:56 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-24 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 9:05:00 AM Lab ID: 2301712-027 Matrix: SOIL Received Date: 1/19/2023 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) ND 8.6 mg/Kg 1 1/24/2023 5:10:23 AM Motor Oil Range Organics (MRO) ND 43 mg/Kg 1 1/24/2023 5:10:23 AM Surr: DNOP 88.3 69-147 %Rec 1 1/24/2023 5:10:23 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 5:11:43 AM 4.9 mg/Kg 1 Surr: BFB 99.6 37.7-212 %Rec 1 1/24/2023 5:11:43 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.025 mg/Kg 1/24/2023 5:11:43 AM 1 Toluene ND 0.049 mg/Kg 1 1/24/2023 5:11:43 AM Ethylbenzene ND 0.049 mg/Kg 1 1/24/2023 5:11:43 AM Xylenes, Total ND 0.099 mg/Kg 1 1/24/2023 5:11:43 AM Surr: 4-Bromofluorobenzene 93.3 70-130 %Rec 1 1/24/2023 5:11:43 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride ND 60 1/24/2023 9:47:17 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-25 0' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 9:15:00 AM Lab ID: 2301712-028 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.5 mg/Kg 1 1/24/2023 5:21:09 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 5:21:09 AM 69-147 Surr: DNOP 91.4 %Rec 1 1/24/2023 5:21:09 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 5:34:57 AM 4.9 mg/Kg 1 Surr: BFB 100 37.7-212 %Rec 1 1/24/2023 5:34:57 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.024 mg/Kg 1/24/2023 5:34:57 AM 1 Toluene ND 0.049 mg/Kg 1 1/24/2023 5:34:57 AM Ethylbenzene ND 0.049 mg/Kg 1 1/24/2023 5:34:57 AM Xylenes, Total ND 0.097 mg/Kg 1 1/24/2023 5:34:57 AM Surr: 4-Bromofluorobenzene 93.5 70-130 %Rec 1 1/24/2023 5:34:57 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride ND 60 1/24/2023 9:59:38 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. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit POL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.

Analyte detected in the associated Method Blank в

- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

Reporting Limit RL

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Date Reported: 1/30/2023

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-25 2' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 9:20:00 AM Lab ID: 2301712-029 Matrix: SOIL Received Date: 1/19/2023 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) ND 10 mg/Kg 1 1/24/2023 5:31:57 AM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/24/2023 5:31:57 AM 69-147 Surr: DNOP 87.0 %Rec 1 1/24/2023 5:31:57 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 5:58:10 AM 4.8 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/24/2023 5:58:10 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.024 mg/Kg 1/24/2023 5:58:10 AM 1 Toluene ND 0.048 mg/Kg 1 1/24/2023 5:58:10 AM Ethylbenzene ND 0.048 mg/Kg 1 1/24/2023 5:58:10 AM Xylenes, Total ND 0.095 mg/Kg 1 1/24/2023 5:58:10 AM Surr: 4-Bromofluorobenzene 95.8 70-130 %Rec 1 1/24/2023 5:58:10 AM Analyst: JMT **EPA METHOD 300.0: ANIONS** Chloride ND 60 1/24/2023 10:11:59 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-25 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/17/2023 9:25:00 AM Lab ID: 2301712-030 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.3 mg/Kg 1 1/24/2023 5:42:41 AM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 1/24/2023 5:42:41 AM 69-147 Surr: DNOP 85.5 %Rec 1 1/24/2023 5:42:41 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 6:21:24 AM 4.8 mg/Kg 1 Surr: BFB 104 37.7-212 %Rec 1 1/24/2023 6:21:24 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/24/2023 6:21:24 AM 0.024 mg/Kg 1 Toluene ND 0.048 mg/Kg 1 1/24/2023 6:21:24 AM Ethylbenzene ND 0.048 mg/Kg 1 1/24/2023 6:21:24 AM Xylenes, Total ND 0.097 mg/Kg 1 1/24/2023 6:21:24 AM Surr: 4-Bromofluorobenzene 96.8 70-130 %Rec 1 1/24/2023 6:21:24 AM Analyst: JMT **EPA METHOD 300.0: ANIONS** Chloride ND 60 1/24/2023 10:24:19 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-26 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 9:45:00 AM Lab ID: 2301712-031 Matrix: SOIL Received Date: 1/19/2023 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) 43 9.2 mg/Kg 1 1/24/2023 5:53:25 AM Motor Oil Range Organics (MRO) 74 46 mg/Kg 1 1/24/2023 5:53:25 AM Surr: DNOP 93.0 69-147 %Rec 1 1/24/2023 5:53:25 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 6:44:38 AM 4.8 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/24/2023 6:44:38 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.024 mg/Kg 1/24/2023 6:44:38 AM 1 Toluene ND 0.048 mg/Kg 1 1/24/2023 6:44:38 AM Ethylbenzene ND 0.048 mg/Kg 1 1/24/2023 6:44:38 AM Xylenes, Total ND 0.095 mg/Kg 1 1/24/2023 6:44:38 AM Surr: 4-Bromofluorobenzene 96.0 70-130 %Rec 1 1/24/2023 6:44:38 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride 520 60 1/24/2023 10:36:40 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-26 6' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 9:50:00 AM Lab ID: 2301712-032 Matrix: SOIL Received Date: 1/19/2023 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) 13 9.7 mg/Kg 1 1/24/2023 6:14:37 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/24/2023 6:14:37 AM 69-147 Surr: DNOP 71.4 %Rec 1 1/24/2023 6:14:37 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 7:07:54 AM 4.8 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/24/2023 7:07:54 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/24/2023 7:07:54 AM 0.024 mg/Kg 1 Toluene ND 0.048 mg/Kg 1 1/24/2023 7:07:54 AM Ethylbenzene ND 0.048 mg/Kg 1 1/24/2023 7:07:54 AM Xylenes, Total ND 0.096 mg/Kg 1 1/24/2023 7:07:54 AM Surr: 4-Bromofluorobenzene 95.1 70-130 %Rec 1 1/24/2023 7:07:54 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride 430 60 1/24/2023 10:49:01 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-26 8' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 9:55:00 AM Lab ID: 2301712-033 Matrix: SOIL Received Date: 1/19/2023 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) 17 8.8 mg/Kg 1 1/24/2023 6:25:19 AM Motor Oil Range Organics (MRO) ND 44 mg/Kg 1 1/24/2023 6:25:19 AM 69-147 Surr: DNOP 111 %Rec 1 1/24/2023 6:25:19 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 7:31:11 AM 5.0 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 1/24/2023 7:31:11 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/24/2023 7:31:11 AM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 1/24/2023 7:31:11 AM Ethylbenzene ND 0.050 mg/Kg 1 1/24/2023 7:31:11 AM Xylenes, Total ND 0.099 mg/Kg 1 1/24/2023 7:31:11 AM Surr: 4-Bromofluorobenzene 96.3 70-130 %Rec 1 1/24/2023 7:31:11 AM Analyst: JMT **EPA METHOD 300.0: ANIONS** Chloride 250 60 1/24/2023 11:01:22 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-27 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 10:05:00 AM Lab ID: 2301712-034 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.3 mg/Kg 1 1/24/2023 6:36:17 AM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/24/2023 6:36:17 AM 69-147 Surr: DNOP 77.6 %Rec 1 1/24/2023 6:36:17 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 7:54:24 AM 5.0 mg/Kg 1 Surr: BFB 104 37.7-212 %Rec 1 1/24/2023 7:54:24 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP 1/24/2023 7:54:24 AM Benzene ND 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 1/24/2023 7:54:24 AM Ethylbenzene ND 0.050 mg/Kg 1 1/24/2023 7:54:24 AM Xylenes, Total ND 0.10 mg/Kg 1 1/24/2023 7:54:24 AM Surr: 4-Bromofluorobenzene 96.2 70-130 %Rec 1 1/24/2023 7:54:24 AM Analyst: JMT **EPA METHOD 300.0: ANIONS** Chloride 1100 60 1/24/2023 11:13:44 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. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

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

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Date Reported: 1/30/2023

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BH22-27 6' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 10:10:00 AM Lab ID: 2301712-035 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.8 mg/Kg 1 1/24/2023 6:46:58 AM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/24/2023 6:46:58 AM 69-147 Surr: DNOP 78.5 %Rec 1 1/24/2023 6:46:58 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 8:17:37 AM 4.8 mg/Kg 1 Surr: BFB 104 37.7-212 %Rec 1 1/24/2023 8:17:37 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.024 mg/Kg 1/24/2023 8:17:37 AM 1 Toluene ND 0.048 mg/Kg 1 1/24/2023 8:17:37 AM Ethylbenzene ND 0.048 mg/Kg 1 1/24/2023 8:17:37 AM Xylenes, Total ND 0.095 mg/Kg 1 1/24/2023 8:17:37 AM Surr: 4-Bromofluorobenzene 98.2 70-130 %Rec 1 1/24/2023 8:17:37 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride 220 60 1/24/2023 11:26:04 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:** Vertex Resources Services, Inc. Client Sample ID: BH22-27 8' **Project:** Tomcat 17 Federal 001 Collection Date: 1/16/2023 10:15:00 AM Lab ID: 2301712-036 Matrix: SOIL Received Date: 1/19/2023 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) ND 9.2 mg/Kg 1 1/24/2023 6:57:36 AM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 1/24/2023 6:57:36 AM Surr: DNOP 71.5 69-147 %Rec 1 1/24/2023 6:57:36 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/24/2023 8:40:49 AM 4.9 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 1/24/2023 8:40:49 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 0.024 mg/Kg 1/24/2023 8:40:49 AM 1 Toluene ND 0.049 mg/Kg 1 1/24/2023 8:40:49 AM Ethylbenzene ND 0.049 mg/Kg 1 1/24/2023 8:40:49 AM Xylenes, Total ND 0.098 mg/Kg 1 1/24/2023 8:40:49 AM Surr: 4-Bromofluorobenzene 96.2 70-130 %Rec 1 1/24/2023 8:40:49 AM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride 92 60 1/25/2023 12:03:04 AM 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

Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- POL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.

Analyte detected in the associated Method Blank в

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

RL

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2301712

30-Jan-23

WO#:

		v			• /						<b>J0-Jun-</b> 2
Client: Project:		sources Ser 7 Federal 00		Inc.							
Sample ID: MB	-72744	SampTyp	be: mb	lk	Tes	tCode: E	PA Method	300.0: Anions	3		
Client ID: PBS	6	Batch I			F	RunNo: 9	4110				
Prep Date: 1/2	21/2023	Analysis Dat	ie: 1/2	21/2023	S	SeqNo: 3	398072	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID: LCS	6-72744	SampTyp	be: Ics		Tes	tCode: E	PA Method	300.0: Anions	6		
Client ID: LCS	SS	Batch I	D: 727	744	F	RunNo: 9	4110				
Prep Date: 1/2	21/2023	Analysis Dat	ie: 1/2	21/2023	S	SeqNo: 3	398073	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	95.7	90	110			
Sample ID: MB	-72764	SampTyp	be: mb	lk	Tes	tCode: E	PA Method	300.0: Anions	6		
Client ID: PBS	6	Batch I	D: 727	764	F	RunNo: 9	4135				
Prep Date: 1/2	23/2023	Analysis Dat	ie: 1/2	23/2023	S	SeqNo: 3	399030	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID: LCS	6-72764	SampTyp	be: Ics		Tes	tCode: E	PA Method	300.0: Anions	6		
Client ID: LCS	SS	Batch I	D: 727	764	F	RunNo: 9	4135				
Prep Date: 1/2	23/2023	Analysis Dat	te: 1/2	23/2023	S	SeqNo: 3	399031	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	94.0	90	110			
Sample ID: MB	-72790	SampTyp	be: <b>mb</b>	lk	Tes	tCode: E	PA Method	300.0: Anions	6		
Client ID: PBS	3	Batch I	D: 727	790	F	RunNo: 9	4168				
Prep Date: 1/2	24/2023	Analysis Dat	te: 1/2	24/2023	S	SeqNo: 3	400495	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID: LCS	6-72790	SampTyp	be: Ics		Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID: LCS	SS	Batch I	D: 727	790	F	RunNo: 9	4168				
Prep Date: 1/2	24/2023	Analysis Dat	te: 1/2	24/2023	5	SeqNo: 3	400496	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	93.1	90	110			

#### Qualifiers:

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- 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

.

Client: Project:		esources Se 7 Federal 0		, Inc.							
Sample ID:	2301712-017AMS	SampTy	ре: <b>М</b>	6	Tes	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	BH22-21 2'	Batch	ID: 72	725	F	RunNo: <b>9</b> 4	¥119				
Prep Date:	1/20/2023	Analysis Da	ite: 1/	24/2023	S	SeqNo: 3	399109	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	42	9.6	48.12	0	88.2	54.2	135			
Surr: DNOP		4.6		4.812		96.0	69	147			
Sample ID:	2301712-017AMSE	<b>)</b> SampTy	ре: М	SD	Tes	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	BH22-21 2'	Batch	ID: 72	725	F	RunNo: <b>9</b> 4	4119		-	-	
Prep Date:	1/20/2023	Analysis Da	ite: 1/	24/2023	S	SeqNo: 3	399110	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	- %RPD	RPDLimit	Qual
	Organics (DRO)	42	9.8	49.16	0	85.7	54.2	135	0.741	29.2	
Surr: DNOP	- *	4.4		4.916		90.0	69	147	0	0	
Sample ID:	LCS-72725	SampTy	pe: LC	S	Tes	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:			ID: <b>72</b> '			RunNo: 94			0	U	
Prep Date:	1/20/2023	Analysis Da	ite: 1/	23/2023	S	SeqNo: 3	399134	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
,	Drganics (DRO)	40	10	50.00	0	80.7	61.9	130			
Surr: DNOP		5.0		5.000		99.5	69	147			
Sample ID:	LCS-72726	SampTy	pe: LC	S	Tes	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	LCSS	Batch	ID: 72	726	F	RunNo: <b>9</b> 4	4119				
Prep Date:	1/20/2023	Analysis Da	ite: 1/	23/2023	S	SeqNo: 3	399135	Units: mg/k	٤g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	41	10	50.00	0	83.0	61.9	130			
Surr: DNOP		5.4		5.000		107	69	147			
Sample ID:	LCS-72740	SampTy	pe: LC	S	Tes	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	LCSS	Batch	ID: 72	740	F	RunNo: <b>9</b> 4	<b>1119</b>		-		
Prep Date:	1/20/2023	Analysis Da	ite: 1/	23/2023	S	SeqNo: 3	399136	Units: %Re	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		5.4		5.000		108	69	147			
Sample ID:	MB-72725	SampTy	pe: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:			ID: 72			RunNo: 94				<b>v</b>	
Prep Date:	1/20/2023	Analysis Da	ite: 1/	23/2023		SeqNo: 3		Units: mg/k	(q		
Analyte		Result	PQL		SPK Ref Val	•	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Drganics (DRO)	ND	10			/UINEO	LOWLINI	i ngn∟innt			Quai

**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

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- % Recovery outside of standard limits. If undiluted results may be estimated. S
- Analyte detected in the associated Method Blank в
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

Reporting Limit RL

2301712

30-Jan-23

	Resources Services, Inc. 17 Federal 001	
Sample ID: MB-72725	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 72725	RunNo: 94119
Prep Date: 1/20/2023	Analysis Date: 1/23/2023	SeqNo: 3399138 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Motor Oil Range Organics (MRO)	ND 50	
Surr: DNOP	9.6 10.00	95.9 69 147
Sample ID: MB-72726	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 72726	RunNo: 94119
Prep Date: 1/20/2023	Analysis Date: 1/23/2023	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	0.5 0.0 447
Surr: DNOP	9.9 10.00	98.5 69 147
Sample ID: <b>MB-72740</b>	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 72740	RunNo: 94119
Prep Date: 1/20/2023	Analysis Date: 1/23/2023	SeqNo: 3399140 Units: %Rec
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	12 10.00	116 69 147
Sample ID: LCS-72755	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 72755	RunNo: 94153
Prep Date: 1/23/2023	Analysis Date: 1/24/2023	SeqNo: 3399719 Units: %Rec
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	6.5 5.000	129 69 147
Sample ID: LCS-72769	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: <b>72769</b>	RunNo: <b>94153</b>
Prep Date: 1/23/2023	Analysis Date: 1/24/2023	SeqNo: 3399720 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
Sample ID: <b>MB-72755</b>	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 72755	RunNo: 94153
Prep Date: 1/23/2023	Analysis Date: 1/24/2023	SeqNo: <b>3399722</b> Units: <b>%Rec</b>
Analyte Surr: DNOP	Result PQL SPK value 13 10.00	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual 126 69 147
	13 10.00	120 03 147

#### Qualifiers:

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- 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

2301712

30-Jan-23

Client: Project:		Resources S t 17 Federal		, Inc.							
Sample ID: MB	-72769	SampT	ype: MI	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PB	S	Batch	n ID: <b>72</b>	769	F	RunNo: 94	4153				
Prep Date: 1/2	23/2023	Analysis D	ate: 1/	24/2023	S	SeqNo: 3	399723	Units: %Red	;		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		11		10.00		106	69	147			

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30-Jan-23

	Resources Services, Inc. 17 Federal 001			
Sample ID: Ics-72717	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 72717	RunNo: 94108		
Prep Date: 1/19/2023	Analysis Date: 1/21/2023	SeqNo: 3397801	Units: <b>mg/Kg</b>	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	lual
Gasoline Range Organics (GRO) Surr: BFB	20         5.0         25.00           1900         1000	0 80.0 72.3 191 37.7	137 212	
Sample ID: mb-72717	SampType: MBLK	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: PBS	Batch ID: 72717	RunNo: 94108		
Prep Date: 1/19/2023	Analysis Date: 1/21/2023	SeqNo: 3397804	Units: <b>mg/Kg</b>	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	lual
Gasoline Range Organics (GRO) Surr: BFB	ND 5.0 1000 1000	100 37.7	212	
Sample ID: Ics-72722	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 72722	RunNo: 94128		
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3398775	Units: <b>mg/Kg</b>	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	lual
Gasoline Range Organics (GRO)	21 5.0 25.00	0 83.8 72.3	137	
Surr: BFB	2000 1000	195 37.7	212	
Sample ID: Ics-72733	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 72733	RunNo: 94128		
Prep Date: 1/20/2023	Analysis Date: 1/23/2023	SeqNo: 3398776	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	lual
Surr: BFB	2000 1000	197 37.7	212	
Sample ID: mb-72722	SampType: MBLK	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: PBS	Batch ID: 72722	RunNo: 94128		
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3398777	Units: <b>mg/Kg</b>	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	lual
Gasoline Range Organics (GRO)	ND 5.0			
Surr: BFB	1000 1000	102 37.7	212	
Sample ID: mb-72733	SampType: MBLK	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: PBS	Batch ID: 72733	RunNo: 94128		
Prep Date: 1/20/2023	Analysis Date: 1/23/2023	SeqNo: 3398778	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	lual
Surr: BFB	1100 1000	107 37.7	212	

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. \*

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

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- Analyte detected in the associated Method Blank в
- Е Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

Reporting Limit

RL

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2301712

30-Jan-23

Client: Project:		esources Se 7 Federal (	· · · · · · · · · · · · · · · · · · ·	Inc.							
Sample ID: 2301	1712-017ams	SampT	ype: <b>MS</b>	;	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	
Client ID: BH2	2-21 2'	Batch	ID: 72	722	F	lunNo: <b>9</b> 4	4128				
Prep Date: 1/1	9/2023	Analysis D	ate: 1/	23/2023	S	eqNo: 3	398780	Units: <b>mg/k</b>	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Orga	anics (GRO)	18	4.9	24.65	0	73.0	70	130			
Surr: BFB		1900		986.2		192	37.7	212			
Sample ID: 2301	1712-017amsd	SampT	ype: <b>MS</b>	D	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	
Client ID: BH2	2-21 2'	Batch	ID: 72	722	F	unNo: 94	4128				
Prep Date: 1/1	9/2023	Analysis D	ate: 1/	24/2023	S	eqNo: 3	398781	Units: mg/k	íg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Orga	anics (GRO)	18	4.9	24.39	0	72.6	70	130	1.74	20	
Surr: BFB		1900		975.6		198	37.7	212	0	0	

Qualifiers:

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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2301712

30-Jan-23

	Resources Servic 17 Federal 001	es, Inc.							
Sample ID: LCS-72717	SampType:	LCS	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch ID:	72717	F	RunNo: <b>9</b> 4	<b>4108</b>				
Prep Date: 1/19/2023	Analysis Date:	1/21/2023	S	SeqNo: 3	397873	Units: mg/K	g		
Analyte	Result PQ	_ SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89 0.02	25 1.000	0	89.1	80	120			
Toluene	0.93 0.05	50 1.000	0	92.9	80	120			
Ethylbenzene	0.93 0.05	50 1.000	0	93.1	80	120			
Xylenes, Total	2.8 0.1	0 3.000	0	92.2	80	120			
Surr: 4-Bromofluorobenzene	0.99	1.000		99.2	70	130			
Sample ID: mb-72717	SampType:	MBLK	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch ID:	72717	F	RunNo: <b>9</b> 4	4108				
Prep Date: 1/19/2023	Analysis Date:	1/21/2023	S	SeqNo: 3	397876	Units: <b>mg/K</b>	g		
Analyte	Result PQ	_ SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND 0.02	25							
Toluene	ND 0.05	50							
Ethylbenzene	ND 0.05	-							
Xylenes, Total	ND 0.1								
Surr: 4-Bromofluorobenzene	0.97	1.000		96.7	70	130			
Sample ID: LCS-72722	SampType:	LCS	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch ID:	72722	F	RunNo: <b>9</b> 4	<b>4128</b>				
Prep Date: 1/19/2023	Analysis Date:	1/23/2023	5	SeqNo: 3	398825	Units: <b>mg/K</b>	g		
Analyte	Result PQ	_ SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89 0.02	25 1.000	0	88.6	80	120			
Toluene	0.92 0.05	50 1.000	0	92.1	80	120			
Ethylbenzene	0.93 0.05			93.0	80	120			
Xylenes, Total	2.8 0.1			92.4	80	120			
Surr: 4-Bromofluorobenzene	1.0	1.000		99.9	70	130			
Sample ID: LCS-72733	SampType:	LCS	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch ID:	72733	F	RunNo: <b>9</b> 4	4128				
Prep Date: 1/20/2023	Analysis Date:	1/23/2023	5	SeqNo: 3	398826	Units: %Red	•		
Analyte	Result PQ	_ SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98	1.000		97.8	70	130			
Sample ID: mb-72722	SampType:	MBLK	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch ID:	72722		RunNo: <b>9</b> 4					
Prep Date: 1/19/2023	Analysis Date:			SeqNo: 3		Units: <b>mg/K</b>	g		
Analyte	Result PQ	_ SPK value	SPK Ref Val			HighLimit	- %RPD	RPDLimit	Qual
						3			

**Qualifiers:** 

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- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded

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- PQL Practical Quanitative Limit
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- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

Reporting Limit RL

WO#: 2301712

30-Jan-23

Client: Vertex	Resources S	Services.	, Inc.							
Project: Tomca	t 17 Federal	001								
Sample ID: mb-72722	Samp	Type: ME	BLK	Test	Code: EF	PA Method	8021B: Volat	iles		
Client ID: PBS	Batc	h ID: 72	722	R	unNo: 94	4128				
Prep Date: 1/19/2023	Analysis [	Date: 1/	23/2023	S	eqNo: 3	898827	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		95.0	70	130			
Sample ID: mb-72733	Samp	Туре: МЕ	BLK	Tes	Code: EF	PA Method	8021B: Volat	iles		
Client ID: PBS	Batc	h ID: <b>72</b>	733	R	unNo: <b>9</b> 4	<b>1128</b>				
Prep Date: 1/20/2023	Analysis [	Date: 1/	23/2023	S	eqNo: 3	398828	Units: %Red	•		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	70	130			
Sample ID: 2301712-018am	ns Samp	Туре: М	6	Tes	Code: EF	PA Method	8021B: Volat	iles		
Client ID: BUOD Of A	Dete	h ID: 72	722	R	unNo: <b>9</b> 4	<b>1128</b>				
Client ID: BH22-21 4'	Date									
Prep Date: 1/19/2023	Analysis [		24/2023	S	eqNo: 3	398831	Units: mg/K	g		
				S SPK Ref Val	eqNo: <b>3</b> : %REC	398831 LowLimit	Units: <b>mg/K</b> HighLimit	<b>g</b> %RPD	RPDLimit	Qual
Prep Date: 1/19/2023 Analyte	Analysis [	Date: 1/					•	•	RPDLimit	Qual
Prep Date: 1/19/2023 Analyte Benzene	Analysis I Result	Date: <b>1/</b> PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	•	RPDLimit	Qual
Prep Date: 1/19/2023 Analyte Benzene Toluene	Analysis I Result 0.85	Date: <b>1/</b> PQL 0.024	SPK value 0.9747	SPK Ref Val 0	%REC 86.9	LowLimit 68.8	HighLimit 120	•	RPDLimit	Qual
Prep Date: 1/19/2023 Analyte Benzene Toluene Ethylbenzene	Analysis I Result 0.85 0.91	Date: <b>1/</b> PQL 0.024 0.049	SPK value 0.9747 0.9747	SPK Ref Val 0 0.01660	%REC 86.9 91.2	LowLimit 68.8 73.6	HighLimit 120 124	•	RPDLimit	Qual
Prep Date: 1/19/2023 Analyte Benzene Toluene Ethylbenzene	Analysis I Result 0.85 0.91 0.91	Date: 1/ PQL 0.024 0.049 0.049	SPK value 0.9747 0.9747 0.9747	SPK Ref Val 0 0.01660 0	%REC 86.9 91.2 93.3	LowLimit 68.8 73.6 72.7	HighLimit 120 124 129	•	RPDLimit	Qual
Prep Date: 1/19/2023 Analyte Benzene Toluene Ethylbenzene Xylenes, Total	Analysis I Result 0.85 0.91 0.91 2.7 0.94	Date: 1/ PQL 0.024 0.049 0.049	SPK value 0.9747 0.9747 2.924 0.9747	SPK Ref Val 0 0.01660 0 0	%REC 86.9 91.2 93.3 92.8 96.9	LowLimit 68.8 73.6 72.7 75.7 70	HighLimit 120 124 129 126	%RPD	RPDLimit	Qual
Prep Date: 1/19/2023 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene	Analysis I <u>Result</u> 0.85 0.91 0.91 2.7 0.94 nsd Samp <sup>*</sup>	Date: 1/ PQL 0.024 0.049 0.049 0.097	SPK value 0.9747 0.9747 0.9747 2.924 0.9747	SPK Ref Val 0 0.01660 0 0 Test	%REC 86.9 91.2 93.3 92.8 96.9	LowLimit 68.8 73.6 72.7 75.7 70 <b>PA Method</b>	HighLimit 120 124 129 126 130	%RPD	RPDLimit	Qual
Prep Date: 1/19/2023 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID: 2301712-018am	Analysis I <u>Result</u> 0.85 0.91 0.91 2.7 0.94 nsd Samp <sup>*</sup>	Date: 1/ PQL 0.024 0.049 0.049 0.097 Type: MS h ID: 72	SPK value 0.9747 0.9747 2.924 0.9747 5D 722	SPK Ref Val 0 0.01660 0 0 Test	%REC 86.9 91.2 93.3 92.8 96.9	LowLimit 68.8 73.6 72.7 75.7 70 PA Method 4128	HighLimit 120 124 129 126 130	%RPD	RPDLimit	Qual
Prep Date: 1/19/2023 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID: 2301712-018am Client ID: BH22-21 4'	Analysis I <u>Result</u> 0.85 0.91 0.91 2.7 0.94 <b>Isd</b> Samp <sup>®</sup> Batc	Date: 1/ PQL 0.024 0.049 0.049 0.097 Type: MS h ID: 72	SPK value 0.9747 0.9747 2.924 0.9747 5D 722 24/2023	SPK Ref Val 0 0.01660 0 0 Test	%REC 86.9 91.2 93.3 92.8 96.9 COde: EF	LowLimit 68.8 73.6 72.7 75.7 70 PA Method 4128	HighLimit 120 124 129 126 130 8021B: Volat	%RPD	RPDLimit	Qual
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Prep Date: 1/19/2023 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID: 2301712-018am Client ID: BH22-21 4' Prep Date: 1/19/2023 Analyte Benzene Toluene	Analysis I Result 0.85 0.91 0.91 2.7 0.94 nsd Samp Batc Analysis I Result 0.70	Date: 1/ PQL 0.024 0.049 0.049 0.097 Type: MS h ID: 72 Date: 1/ PQL 0.024	SPK value 0.9747 0.9747 2.924 0.9747 5D 722 24/2023 SPK value 0.9756	SPK Ref Val 0 0.01660 0 0 Test R SPK Ref Val 0	%REC 86.9 91.2 93.3 92.8 96.9 Code: EF tunNo: 94 teqNo: 33 %REC 71.3	LowLimit 68.8 73.6 72.7 75.7 70 PA Method 4128 398832 LowLimit 68.8	HighLimit 120 124 129 126 130 8021B: Volat Units: mg/K HighLimit 120	%RPD iiles 59 %RPD 19.6	RPDLimit 20	
Prep Date: 1/19/2023 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID: 2301712-018am Client ID: BH22-21 4' Prep Date: 1/19/2023 Analyte Benzene	Analysis I Result 0.85 0.91 0.91 2.7 0.94 nsd Samp Batc Analysis I Result 0.70 0.81	Date: 1/ PQL 0.024 0.049 0.049 0.097 Type: MS h ID: 72 Date: 1/ PQL 0.024 0.049	SPK value 0.9747 0.9747 2.924 0.9747 5D 722 24/2023 SPK value 0.9756 0.9756	SPK Ref Val 0 0.01660 0 0 Test R S SPK Ref Val 0 0.01660	%REC 86.9 91.2 93.3 92.8 96.9 Code: EF SunNo: 94 SeqNo: 33 %REC 71.3 81.8	LowLimit 68.8 73.6 72.7 75.7 70 PA Method 4128 398832 LowLimit 68.8 73.6	HighLimit 120 124 129 126 130 8021B: Volat Units: mg/K HighLimit 120 124	%RPD iiles 5g %RPD 19.6 10.6	RPDLimit 20 20	

#### Qualifiers:

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

WO#: 2301712 30-Jan-23

NVIRONMENTAL NALYSIS ABORATORY TEL: 50	vironmental Analysis Laborato 4901 Hawkins N Albuquerque, NM 8710 05-345-3975 FAX: 505-345-410 site: www.hallenvironmental.co	<sup>ve</sup> <sup>09</sup> Sam <sup>07</sup>	nple Log-In Check List
me: Vertex Resources Work Ord Services, Inc.	ler Number: 2301712		RcptNo: 1
By: Juan Rojas 1/19/2023 7	7:20:00 AM	4 wan in go S-l	
d By: Sean Livingston 1/19/2023 8	3:27:53 AM	Sala	John
By: KPG 119.23			v
fCustody		_	_
in of Custody complete?	Yes 🗹	No 🗌	Not Present
as the sample delivered?	Courier		
n attempt made to cool the samples?	Yes 🖌	No 🗌	
Il samples received at a temperature of >0° C to 6.	.0°C Yes 🗹	No 🗌	
e(s) in proper container(s)?	Yes 🔽	No 🗌	
nt sample volume for indicated test(s)?	Yes 🔽	No 🗌	
nples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌	
eservative added to bottles?	Yes	No 🗹	NA 🗌
ed at least 1 vial with headspace <1/4" for AQ VOA		No 🗌	NA 🗹
any sample containers received broken?	Yes	No 🗹 🏻	# of preserved
aperwork match bottle labels?	Yes 🗹	No 🗆	bottles checked for pH:
liscrepancies on chain of custody)			(<2 or >12 unless noted) Adjusted?
trices correctly identified on Chain of Custody?	Yes 🗹 Yes 🗹	No 🗌 No 🗌	Aujusieu
ar what analyses were requested? Il holding times able to be met?	Yes 🔽		checked by: JM1 1923
notify customer for authorization.)			
landling (if applicable)	_	_	_
lient notified of all discrepancies with this order?	Yes 🗌	No 🗌	
Person Notified:	Date:		
By Whom:	Via: 🗌 eMail 🗌 Pho	one 🗌 Fax	in Person
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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.

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Client:		Vertex		X Standard	K Rush_	5 Davy	1		Г		<b>A</b>	ANALYSIS	S	AB	0R	ABORATORY	RY
		-	(direct bill to Devon)	Project Name:						~	w.hal	enviro	nmei	www.hallenvironmental.com	E		
Mailing Address:	Address			Tomcat 17 Federal #001	ieral #001			49	01 Ha	4901 Hawkins NE	י NE		guerg	ue, NN	Albuquerque, NM 87109		
				Project #:				Ĕ	el. 50{	Tel. 505-345-3975	3975	Fax	x 50t	505-345-4107	4107		
Phone #:				22E-02816-27							4	Analysis Request	is Re	quest			
email or Fax#:	Fax#:			Project Manager:								<sup>†</sup> OS	_	(ìu	-		
QA/QC Package:	ackage:			Kent Stallings					s'80	SIM		S '⊅C		∋sdA			
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Accreditation:	ation:	🗆 Az Co	Az Compliance	Sampler: L	L.Pullman				2808			ZON	(				
	JC	□ Other		On Ice:	I seven	ON D			8/se			3'	AC				
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				Cooler Temp(including CF):	suding CF): V	1-0-1.9			oiteə								
Date	Time	Matrix	Sample Name	Container P Type and # T	Preservative Type	2)た1922		) XЭТ8 08:НЧТ	9 1808	N) 803 PAHs t	АЯЭЯ	CI) E' I	8) 0728 () 0328	) otal O lefoT			
01/16/23	10:25	Soil	BH22-15 0'	1, 4oz jar		100		× ×				×					
01/16/23	10:30	Soil	BH22-15 2'	1, 4oz jar		200	)	×				×					
01/16/23	10:35	Soil	BH22-16 0'	1, 4oz jar		002		×				×	_				
01/16/23	10:40	Soil	BH22-16 2'	1, 4oz jar		700	_	××				×	_				
01/16/23	10:45	Soil	BH22-17 0'	1, 4oz jar		Sao		× ×				×				_	
01/16/23	10:50	Soil	BH22-17 2'	1, 4oz jar		300		× ×				×	_				
01/16/23	11:00	Soil	BH22-18 0'	1, 4oz jar		400		××				×					
01/16/23	11:05	Soil	BH22-18 2'	1, 4oz jar		B		× ×				×					
01/16/23	11:10	Soil	BH22-18 4'	1, 4oz jar		200		×				×					
01/16/23	11:15	Soil	BH22-19 0'	1, 4oz jar		010		× ×				×					
01/16/23	11:20	Soil	BH22-19 2'	1, 4oz jar		10-10 20-01	11	×				×					
01/16/23	11:25		BH22-19 4'	1, 4oz jar				× ×				×					
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3	00:10	Landa	Winn	adururu	WW	~	-	Direct bill to Devon, Dale Woodall cc. kstallings@vertex.ca for Final	oill to alling	Devo s@vei	n, Dal tex.c	e Woo	odall inal	Direct bill to Devon, Dale Woodall cc. kstallings@vertex.ca for Final Report			
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18/13/19/10	19.10	CULL	CULIMMAN	T aft	COUNTER .		120	:					-	-		1	
-	f necessary	<ul> <li>samples sub</li> </ul>	f pecessary samples submitted to Hall Environmental may be subcontracted to other accredited laboratories.	contracted to other acc	redited laboratories	s. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.	e of this p	ossibility.	Any sul	o-contrac	ted data	will be c	early no	otated on	the analyti	cal report.	

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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.

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		(direct bi	(direct bill to Devon)	Project Name:						www.	hallen	vironn	www.hallenvironmental.com	.com	
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				Project #:				Tel.	505-345-3975	15-39		Fax	505-34	505-345-4107	
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email or Fax#:	-ax#:			Project Manager	iger:		(1	(0			*O		0-	()u	
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Accreditation:	tion:	🗆 Az Co	mpliance		L.Pullman		IME			728	<sup>z</sup> ON			əsəı	
	$\Box$	□ Other		On Ice:	E Yes	□ No	/ 3		_					ر الحا	
🗆 EDD (Type)	Type)			# of Coolers:	1	morty	38							uı	
-				Cooler Temp(including CF):	Vincluding CF):	んけこの-1.	LW							01110	
Date Ti	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	N X H	08:H9T 9 1808	EDB (V	a sHA9	CI' E' I BCBA	/) 0928	S) 0728	) lstoT	
01/16/23 1	11:30	Soil	BH22-20 0'	1, 4oz jar		013	×	×			×				
01/16/23 1	11:35	Soil	BH22-20 2'	1, 4oz jar		014	×	×			×				
01/16/23 1	11:40	Soil	BH22-20 4'	1, 4oz jar		012	×	X			X				
01/17/23	8:05	Soil	BH22-21 0'	1, 4oz jar		210	×	X			X				
01/17/23	8:10	Soil	BH22-21 2'	1, 4oz jar		410	×	×			×				
01/17/23	8:15	Soil	BH22-21 4'	1, 4oz jar		214	×	X			×				
01/17/23	8:20	Soil	BH22-22 0'	1, 4oz jar		019	×	×			×				
01/17/23	8:25	Soil	BH22-22 2'	1, 4oz jar		C2 0	×	X			×				
01/17/23 8	8:30	Soil	BH22-22 4'	1, 4oz jar		1-201	×	×			×				
01/17/23	8:40	Soil	BH22-23 0'	1, 4oz jar		220	×	X			×				
01/17/23	8:45	Soil	BH22-23 2'	1, 4oz jar		510	×	X			×				
/23	8:50	Soil	BH22-23 4'	1, 4oz jar		אזכי	×	×			X				
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lf ne	<b>PCPSSBIV</b>	samples sub-	If necessary samples submitted to Hall Environmental may be subcontracted to othe accred	contracted to other	accredited laboratories	s. This serves as notice of this nossibility. Any sub-contracted data will be clearly notated on the analytical report	hoseib	lity Any	sub-con	tracted o	ata will b	be clear	v notateo	on the ar	alvtical report.

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Mailing	Mailing Address:			Tomcat 17 Federal #001	01		4901	4901 Hawkins NE	ns NE	- Albu	uenbr	que, N	Albuquerque, NM 87109	
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Phone #:	#: #:			22E-02816-27			R			Analy	sis R	Analysis Request		
email or Fax#:	r Fax#:			Project Manager:		-				*OS	-	( <b>)</b> ua		-
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Standard	Idard		Level 4 (Full Validation)	<u>kstallings@vertex.ca</u>					S04	)d '		/ <u>î</u> u:		
Accreditation:	itation:		Az Compliance	Sampler: L.Pullman					728	ZON				
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Date	Time	Matrix	Sample Name	Container Preservative Type and # Type	ive HEAL No.	X TEX /	08:H9T 9 1808	EDB (V	PAHs t	CI' E' I	/) 0928	8) 0728 D lbfoT		
01/17/23	8:55	Soil	BH22-24 0'	1, 4oz jar	025	×	×			×				
01/17/23	00:6	Soil	BH22-24 2'	1, 4oz jar	220	×	×			×				
01/17/23	9:05	Soil	BH22-24 4'	1, 4oz jar	¢17ò	×	×		_	×				
01/17/23	9:15	Soil	BH22-25 0'	1, 4oz jar	120	×	×			×				
01/17/23	9:20	Soil	BH22-25 2'	1, 4oz jar	0 26	×	×			×				
01/17/23	9:25	Soil	BH22-25 4'	1, 4oz jar	300	×	×			×				
01/16/23	9:45	Soil	BH22-26 4'	1, 4oz jar	150	×	×		-	×				
01/16/23	9:50	Soil	BH22-26 6'	1, 4oz jar	032	×	×		_	×				
01/16/23	9:55	Soil	BH22-26 8'	1, 4oz jar	523	×	×			×				
01/16/23	10:05	Soil	BH22-27 4'	1, 4oz jar	250	×	×			×		_		
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December 21, 2022

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

RE: Tomcat 17 Federal 001

OrderNo.: 2212806

Hall Environmental Analysis Laboratory

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

Website: www.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 17 sample(s) on 12/14/2022 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Project:** 

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

**Analytical Report** Lab Order 2212806

Date Reported: 12/21/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WS22-01 0-2' Collection Date: 12/12/2022 7:45:00 AM Received Date: 12/14/2022 7:30:00 AM

Lab ID: 2212806-001	Matrix: SOIL	Recei	ved Date:	12/14/	2022 7:30:00 AM
Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	E ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	12/16/2022 6:01:13 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/16/2022 6:01:13 PM
Surr: DNOP	109	21-129	%Rec	1	12/16/2022 6:01:13 PM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/16/2022 12:47:00 PM
Surr: BFB	103	37.7-212	%Rec	1	12/16/2022 12:47:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	12/16/2022 12:47:00 PM
Toluene	ND	0.050	mg/Kg	1	12/16/2022 12:47:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	12/16/2022 12:47:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	12/16/2022 12:47:00 PM
Surr: 4-Bromofluorobenzene	108	70-130	%Rec	1	12/16/2022 12:47:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	110	60	mg/Kg	20	12/16/2022 12:29:01 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

н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- Above Quantitation Range/Estimated Value Е
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit Page 1 of 21

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Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-02 0-2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 7:55:00 AM Lab ID: 2212806-002 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** ND 15 mg/Kg 1 12/16/2022 6:32:52 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/16/2022 6:32:52 PM Surr: DNOP 123 21-129 %Rec 1 12/16/2022 6:32:52 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 1:46:00 PM 5.0 mg/Kg 1 Surr: BFB 96.8 37.7-212 %Rec 1 12/16/2022 1:46:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 12/16/2022 1:46:00 PM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 12/16/2022 1:46:00 PM Ethylbenzene ND 0.050 mg/Kg 1 12/16/2022 1:46:00 PM Xylenes, Total ND mg/Kg 1 12/16/2022 1:46:00 PM 0.099 Surr: 4-Bromofluorobenzene 106 70-130 %Rec 1 12/16/2022 1:46:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 1:06:14 PM ND 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 2 of 21

Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-03 0-2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 8:00:00 AM Lab ID: 2212806-003 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** ND 15 mg/Kg 1 12/16/2022 6:43:31 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/16/2022 6:43:31 PM Surr: DNOP 104 21-129 %Rec 1 12/16/2022 6:43:31 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 2:45:00 PM 5.0 mg/Kg 1 Surr: BFB 102 37.7-212 %Rec 1 12/16/2022 2:45:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 12/16/2022 2:45:00 PM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 12/16/2022 2:45:00 PM Ethylbenzene ND 0.050 mg/Kg 1 12/16/2022 2:45:00 PM Xylenes, Total ND mg/Kg 1 12/16/2022 2:45:00 PM 0.099 Surr: 4-Bromofluorobenzene 110 70-130 %Rec 1 12/16/2022 2:45:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 1:43:26 PM 170 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

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E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 3 of 21

Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-04 0-2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 8:05:00 AM Lab ID: 2212806-004 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS **Diesel Range Organics (DRO)** ND 15 mg/Kg 1 12/16/2022 6:54:12 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/16/2022 6:54:12 PM Surr: DNOP 104 21-129 %Rec 1 12/16/2022 6:54:12 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 3:05:00 PM 4.9 mg/Kg 1 Surr: BFB 109 37.7-212 %Rec 1 12/16/2022 3:05:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 12/16/2022 3:05:00 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/16/2022 3:05:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/16/2022 3:05:00 PM Xylenes, Total ND 0.098 mg/Kg 1 12/16/2022 3:05:00 PM Surr: 4-Bromofluorobenzene 110 70-130 %Rec 1 12/16/2022 3:05:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 2:20:39 PM 150 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

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

Page 4 of 21

Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-05 0-2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 8:10:00 AM Lab ID: 2212806-005 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** ND 14 mg/Kg 1 12/16/2022 7:04:53 PM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 12/16/2022 7:04:53 PM Surr: DNOP 101 21-129 %Rec 1 12/16/2022 7:04:53 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 3:24:00 PM 4.9 mg/Kg 1 Surr: BFB 93.9 37.7-212 %Rec 1 12/16/2022 3:24:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 12/16/2022 3:24:00 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/16/2022 3:24:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/16/2022 3:24:00 PM Xylenes, Total ND 0.099 mg/Kg 1 12/16/2022 3:24:00 PM Surr: 4-Bromofluorobenzene 103 70-130 %Rec 1 12/16/2022 3:24:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 2:33:04 PM ND 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits

Р Sample pH Not In Range RL Reporting Limit

Page 5 of 21

**Project:** 

CLIENT: Vertex Resources Services, Inc.

Tomcat 17 Federal 001

**Analytical Report** Lab Order 2212806

Date Reported: 12/21/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WS22-06 0-4' Collection Date: 12/12/2022 9:00:00 AM Received Date: 12/14/2022 7:30:00 AM

Lab ID: 2212806-006	Matrix: SOIL	Rece	ived Date:	12/14/	2022 7:30:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	15	mg/Kg	1	12/16/2022 7:15:33 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/16/2022 7:15:33 PM
Surr: DNOP	103	21-129	%Rec	1	12/16/2022 7:15:33 PM
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/16/2022 3:44:00 PM
Surr: BFB	101	37.7-212	%Rec	1	12/16/2022 3:44:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	12/16/2022 3:44:00 PM
Toluene	ND	0.048	mg/Kg	1	12/16/2022 3:44:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	12/16/2022 3:44:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	12/16/2022 3:44:00 PM
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	1	12/16/2022 3:44:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	61	mg/Kg	20	12/16/2022 2:45:28 PM

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

**Qualifiers:** 

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

- D н Holding times for preparation or analysis exceeded
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- Above Quantitation Range/Estimated Value Е
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 6 of 21

Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-07 0-4' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 9:05:00 AM Lab ID: 2212806-007 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** ND 14 mg/Kg 1 12/16/2022 7:26:14 PM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 12/16/2022 7:26:14 PM Surr: DNOP 106 21-129 %Rec 1 12/16/2022 7:26:14 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 4:04:00 PM 4.9 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 12/16/2022 4:04:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 12/16/2022 4:04:00 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/16/2022 4:04:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/16/2022 4:04:00 PM Xylenes, Total ND 0.099 mg/Kg 1 12/16/2022 4:04:00 PM Surr: 4-Bromofluorobenzene 110 70-130 %Rec 1 12/16/2022 4:04:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 2:57:53 PM 140 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 7 of 21

Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-08 0-4' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 9:10:00 AM Lab ID: 2212806-008 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** ND 14 mg/Kg 1 12/16/2022 7:36:51 PM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 12/16/2022 7:36:51 PM Surr: DNOP 21-129 %Rec 1 12/16/2022 7:36:51 PM 112 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 4:23:00 PM 5.0 mg/Kg 1 Surr: BFB 103 37.7-212 %Rec 1 12/16/2022 4:23:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 12/16/2022 4:23:00 PM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 12/16/2022 4:23:00 PM Ethylbenzene ND 0.050 mg/Kg 1 12/16/2022 4:23:00 PM Xylenes, Total ND mg/Kg 1 12/16/2022 4:23:00 PM 0.10 Surr: 4-Bromofluorobenzene 110 70-130 %Rec 1 12/16/2022 4:23:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 3:10:17 PM 150 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit POL
- Practical Quanitative Limit S

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

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

Page 8 of 21

**Project:** 

Lab ID:

CLIENT: Vertex Resources Services, Inc.

2212806-009

Tomcat 17 Federal 001

**Analytical Report** Lab Order 2212806

Date Reported: 12/21/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WS22-09 0-4' Collection Date: 12/12/2022 9:15:00 AM Received Date: 12/14/2022 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	15	mg/Kg	1	12/16/2022 7:57:56 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/16/2022 7:57:56 PM
Surr: DNOP	105	21-129	%Rec	1	12/16/2022 7:57:56 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/16/2022 4:43:00 PM
Surr: BFB	96.7	37.7-212	%Rec	1	12/16/2022 4:43:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	12/16/2022 4:43:00 PM
Toluene	ND	0.048	mg/Kg	1	12/16/2022 4:43:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	12/16/2022 4:43:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	12/16/2022 4:43:00 PM
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	1	12/16/2022 4:43:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	60	mg/Kg	20	12/16/2022 3:22:42 PM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

Above Quantitation Range/Estimated Value Е

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 9 of 21

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Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-10 0-4' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 9:30:00 AM Lab ID: 2212806-010 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH Diesel Range Organics (DRO) ND 14 mg/Kg 1 12/16/2022 8:08:36 PM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 12/16/2022 8:08:36 PM Surr: DNOP 125 21-129 %Rec 1 12/16/2022 8:08:36 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 5:02:00 PM 5.0 mg/Kg 1 Surr: BFB 97.4 37.7-212 %Rec 1 12/16/2022 5:02:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 12/16/2022 5:02:00 PM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 12/16/2022 5:02:00 PM Ethylbenzene ND 0.050 mg/Kg 1 12/16/2022 5:02:00 PM Xylenes, Total ND mg/Kg 1 12/16/2022 5:02:00 PM 0.099 Surr: 4-Bromofluorobenzene 107 70-130 %Rec 1 12/16/2022 5:02:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 3:35:06 PM ND 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

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

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2212806-011

Diesel Range Organics (DRO)

**Project:** 

Lab ID:

Analyses

**Analytical Report** Lab Order 2212806

Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-11 0-4' Tomcat 17 Federal 001 Collection Date: 12/12/2022 9:35:00 AM Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: DGH ND 12/16/2022 8:19:13 PM 14 mg/Kg 1

Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/16/2022 8:19:13 PM
Surr: DNOP	155	21-129	S %Rec	1	12/16/2022 8:19:13 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/16/2022 5:42:00 PM
Surr: BFB	106	37.7-212	%Rec	1	12/16/2022 5:42:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	12/16/2022 5:42:00 PM
Toluene	ND	0.050	mg/Kg	1	12/16/2022 5:42:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	12/16/2022 5:42:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	12/16/2022 5:42:00 PM
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	1	12/16/2022 5:42:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	250	60	mg/Kg	20	12/16/2022 4:12:19 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

Н Holding times for preparation or analysis exceeded

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

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Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-12 2-4' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 9:40:00 AM Lab ID: 2212806-012 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH Diesel Range Organics (DRO) ND 15 mg/Kg 1 12/16/2022 8:29:51 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/16/2022 8:29:51 PM Surr: DNOP 109 21-129 %Rec 1 12/16/2022 8:29:51 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 6:01:00 PM 4.9 mg/Kg 1 Surr: BFB 98.4 37.7-212 %Rec 1 12/16/2022 6:01:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 0.024 12/16/2022 6:01:00 PM mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/16/2022 6:01:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/16/2022 6:01:00 PM Xylenes, Total ND 0.097 mg/Kg 1 12/16/2022 6:01:00 PM Surr: 4-Bromofluorobenzene 108 70-130 %Rec 1 12/16/2022 6:01:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 5:14:21 PM ND 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н

- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit POL
- Practical Quanitative Limit S

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

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

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Date Reported: 12/21/2022

12/16/2022 5:51:34 PM

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-13 0-4' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 10:00:00 AM Lab ID: 2212806-013 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH Diesel Range Organics (DRO) ND 14 mg/Kg 1 12/16/2022 8:40:28 PM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 12/16/2022 8:40:28 PM Surr: DNOP 97.1 21-129 %Rec 1 12/16/2022 8:40:28 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 6:21:00 PM 4.9 mg/Kg 1 Surr: BFB 95.2 37.7-212 %Rec 1 12/16/2022 6:21:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 0.024 12/16/2022 6:21:00 PM mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/16/2022 6:21:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/16/2022 6:21:00 PM Xylenes, Total ND 0.098 mg/Kg 1 12/16/2022 6:21:00 PM Surr: 4-Bromofluorobenzene 107 70-130 %Rec 1 12/16/2022 6:21:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI

ND

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

**Qualifiers:** 

Chloride

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits

mg/Kg

20

61

Р Sample pH Not In Range Reporting Limit

RL

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**Project:** 

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 001

**Analytical Report** Lab Order 2212806

Date Reported: 12/21/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS22-01 2' Collection Date: 12/12/2022 8:30:00 AM **Received Date:** 12/14/2022 7:30:00 AM

Lab ID: 2212806-014	Matrix: SOIL	Rece	ived Date:	12/14/	2022 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	14	mg/Kg	1	12/16/2022 8:51:01 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/16/2022 8:51:01 PM
Surr: DNOP	104	21-129	%Rec	1	12/16/2022 8:51:01 PM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/16/2022 6:41:00 PM
Surr: BFB	99.8	37.7-212	%Rec	1	12/16/2022 6:41:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.024	mg/Kg	1	12/16/2022 6:41:00 PM
Toluene	ND	0.048	mg/Kg	1	12/16/2022 6:41:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	12/16/2022 6:41:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	12/16/2022 6:41:00 PM
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	1	12/16/2022 6:41:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	ND	59	mg/Kg	20	12/16/2022 6:03:58 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

н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

ND PQL Practical Quanitative Limit

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

RL

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**Project:** 

Lab ID:

CLIENT: Vertex Resources Services, Inc.

2212806-015

Tomcat 17 Federal 001

**Analytical Report** Lab Order 2212806

Date Reported: 12/21/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS22-02 2' Collection Date: 12/12/2022 8:35:00 AM Received Date: 12/14/2022 7:30:00 AM

	Soll	1000	civea Dave.	12/11/	2022 7:30:00 1101
Analyses	Result	RL Qu	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	14	mg/Kg	1	12/16/2022 9:01:37 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/16/2022 9:01:37 PM
Surr: DNOP	98.8	21-129	%Rec	1	12/16/2022 9:01:37 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/16/2022 7:00:00 PM
Surr: BFB	98.3	37.7-212	%Rec	1	12/16/2022 7:00:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: CCM
Benzene	ND	0.025	mg/Kg	1	12/16/2022 7:00:00 PM
Toluene	ND	0.049	mg/Kg	1	12/16/2022 7:00:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	12/16/2022 7:00:00 PM
Xylenes, Total	ND	0.099	mg/Kg	1	12/16/2022 7:00:00 PM
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	1	12/16/2022 7:00:00 PM
EPA METHOD 300.0: ANIONS					Analyst: NAI
Chloride	100	60	mg/Kg	20	12/16/2022 6:16:22 PM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

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

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Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BS22-03 2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 8:40:00 AM Lab ID: 2212806-016 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH Diesel Range Organics (DRO) ND 14 mg/Kg 1 12/16/2022 9:12:10 PM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 12/16/2022 9:12:10 PM Surr: DNOP 21-129 %Rec 1 12/16/2022 9:12:10 PM 118 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 7:20:00 PM 5.0 mg/Kg 1 Surr: BFB 99.9 37.7-212 %Rec 1 12/16/2022 7:20:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 12/16/2022 7:20:00 PM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 12/16/2022 7:20:00 PM Ethylbenzene ND 0.050 mg/Kg 1 12/16/2022 7:20:00 PM Xylenes, Total ND mg/Kg 1 12/16/2022 7:20:00 PM 0.10 Surr: 4-Bromofluorobenzene 108 70-130 %Rec 1 12/16/2022 7:20:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 6:28:46 PM ND 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL

Practical Quanitative Limit S

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

- Analyte detected in the associated Method Blank в
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit Page 16 of 21

Date Reported: 12/21/2022

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BS22-04 2' **Project:** Tomcat 17 Federal 001 Collection Date: 12/12/2022 8:45:00 AM Lab ID: 2212806-017 Matrix: SOIL Received Date: 12/14/2022 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** ND 15 mg/Kg 1 12/16/2022 9:22:44 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/16/2022 9:22:44 PM Surr: DNOP 97.6 21-129 %Rec 1 12/16/2022 9:22:44 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: CCM Gasoline Range Organics (GRO) ND 12/16/2022 7:40:00 PM 4.9 mg/Kg 1 Surr: BFB 105 37.7-212 %Rec 1 12/16/2022 7:40:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: CCM Benzene ND 0.024 12/16/2022 7:40:00 PM mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/16/2022 7:40:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/16/2022 7:40:00 PM Xylenes, Total ND 0.098 mg/Kg 1 12/16/2022 7:40:00 PM Surr: 4-Bromofluorobenzene 108 70-130 %Rec 1 12/16/2022 7:40:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 6:41:10 PM ND 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL

Practical Quanitative Limit S

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

- Analyte detected in the associated Method Blank в
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit Page 17 of 21

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2212806

WO#:

Hall Er	Environmental Analysis Laboratory, Inc.									21-Dec-2
Client: Project:	Vertex Resources Services, Inc. Tomcat 17 Federal 001									
Sample ID:	MB-72139	SampType: mb	TestCode: EPA Method 300.0: Anions							
Client ID:	PBS	Batch ID: 721	RunNo: 93360							
Prep Date:	12/16/2022	Analysis Date: 12	SeqNo: 3367761			Units: mg/K				
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.5								
Sample ID:	LCS-72139	TestCode: EPA Method 300.0: Anions								
Client ID:	LCSS	Batch ID: 721	RunNo: 93360							
Prep Date:	12/16/2022	Analysis Date: 12	Ş	367762	Units: mg/K	g				
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		15 1.5	15.00	0	97.4	90	110			
Sample ID:	MB-72145	SampType: mb	TestCode: EPA Method 300.0: Anions							
Client ID:	PBS	Batch ID: 721	RunNo: <b>93360</b>							
Prep Date:	12/16/2022	Analysis Date: 12	SeqNo: 3367791			Units: mg/Kg				
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.5								
Sample ID:	LCS-72145	-72145 SampType: Ics			TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS	S Batch ID: 72145			RunNo: <b>93360</b>					
Prep Date:	12/16/2022	Analysis Date: 12	SeqNo: 3367792			Units: mg/K				
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		15 1.5	15.00	0	97.0	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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Client: Project:		sources Se 7 Federal (		Inc.								
Sample ID:	LCS-72125 SampType: LCS				TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID:	LCSS	Batch ID: 72125			RunNo: <b>93380</b>							
Prep Date:	12/15/2022	Analysis Da	ate: 12	2/16/2022	Ş	SeqNo: 33	367303	Units: mg/K	g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range	Organics (DRO)	41	15	50.00	0	82.3	64.4	127				
Surr: DNOP		5.0		5.000		101	21	129				
Sample ID:	e ID: MB-72125 SampType: MBLK				TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID:	PBS Batch ID: 72125			RunNo: 93380								
Prep Date:	12/15/2022	Analysis Date: 12/16/2022			SeqNo: 3367305			Units: <b>mg/Kg</b>				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range	Organics (DRO)	ND	15									
Motor Oil Rang	e Organics (MRO)	ND	50									
Surr: DNOP		9.6		10.00		95.7	21	129				
Sample ID:	2212806-001AMS SampType: MS				TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID:	WS22-01 0-2'	WS22-01 0-2' Batch ID: 72125			RunNo: 93380							
Prep Date:	12/15/2022	Analysis Date: 12/16/2022			SeqNo: 3369622			Units: mg/Kg				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range	Organics (DRO)	31	15	48.73	0	62.9	36.1	154				
Surr: DNOP		4.5		4.873		91.4	21	129				
Sample ID:	2212806-001AMSD SampType: MSD				TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID:	WS22-01 0-2' Batch ID: 72125			RunNo: 93380								
Prep Date:	12/15/2022         Analysis Date:         12/16/2022			SeqNo: 3369623 Units: mg/Kg								
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range	Organics (DRO)	46	14	47.71	0	97.0	36.1	154	40.6	33.9	R	
Surr: DNOP		6.1		4.771		128	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
- 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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2212806

21-Dec-22

Client: Project:	Vertex Re Tomcat 17			Inc.							
Sample ID:	lcs-72084	SampT	ype: LC	S	Tes	tCode: EF	A Method	8015D: Gasol	ine Range		
Client ID:	LCSS	Batch	n ID: 720	)84	F	RunNo: <b>93</b>	3374				
Prep Date:	12/14/2022	Analysis D	ate: 12	/16/2022	S	SeqNo: 33	866972	Units: mg/K	g		
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	93.6	72.3	137			
Surr: BFB		2200		1000		219	37.7	212			S
Sample ID:	mb-72084	SampT	ype: ME	BLK	Tes	tCode: EF	A Method	8015D: Gasol	ine Range		
Client ID:	PBS	Batch	n ID: 720	)84	F	RunNo: <b>93</b>	374				
Prep Date:	12/14/2022	Analysis D	ate: 12	/16/2022	S	SeqNo: 33	66973	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range	e Organics (GRO)	ND	5.0								
Surr: BFB		1000		1000		101	37.7	212			
5000 Di Di		1000		1000			0.11				
	2212806-001ams		ype: MS		Tes			8015D: Gasol	ine Range		
Sample ID:	2212806-001ams WS22-01 0-2'	SampT	ype: <b>MS</b> 1D: <b>720</b>	5			PA Method		ine Range		
Sample ID:		SampT	n ID: <b>72(</b>	5 )84	F	tCode: EF	PA Method		-		
Sample ID: Client ID:	WS22-01 0-2'	SampT Batch	n ID: <b>72(</b>	5 084 1/16/2022	F	tCode: EF RunNo: 93 SeqNo: 33	PA Method	8015D: Gasol	-	RPDLimit	Qual
Sample ID: Client ID: Prep Date: Analyte	WS22-01 0-2'	SampT Batch Analysis D	n ID: 720 Date: 12	5 084 1/16/2022	F	tCode: EF RunNo: 93 SeqNo: 33	PA Method 3374 366975	8015D: Gasol Units: mg/K	g		Qual
Sample ID: Client ID: Prep Date: Analyte	WS22-01 0-2' 12/14/2022	SampT Batch Analysis D Result	n ID: <b>72(</b> Date: <b>12</b> PQL	5 084 2/16/2022 SPK value	F S SPK Ref Val	tCode: EF RunNo: 93 SeqNo: 33 %REC	PA Method 3 374 366975 LowLimit	<b>8015D: Gasol</b> Units: <b>mg/K</b> HighLimit	g		Qual
Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB	WS22-01 0-2' 12/14/2022	SampT Batch Analysis D Result 24 2200	n ID: <b>72(</b> Date: <b>12</b> PQL	5 084 2/16/2022 SPK value 24.70 988.1	F SPK Ref Val 0	tCode: EF RunNo: 93 SeqNo: 33 %REC 95.3 222	24 Method 3 3374 366975 LowLimit 70 37.7	8015D: Gasol Units: mg/K HighLimit 130	g %RPD	RPDLimit	
Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID:	WS22-01 0-2' 12/14/2022 e Organics (GRO)	SampT Batch Analysis D Result 24 2200 SampT	Date: <b>12</b> PQL 4.9	5 084 2/16/2022 SPK value 24.70 988.1	F SPK Ref Val 0 Tes	tCode: EF RunNo: 93 SeqNo: 33 %REC 95.3 222	24 Method 3 3374 366975 LowLimit 70 37.7 24 Method 3	8015D: Gasol Units: mg/K HighLimit 130 212	g %RPD	RPDLimit	
Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID:	WS22-01 0-2' 12/14/2022 e Organics (GRO) 2212806-001amsd	SampT Batch Analysis D Result 24 2200 SampT	PQL 4.9 7ype: MS	5 084 2/16/2022 SPK value 24.70 988.1 5D 084	F SPK Ref Val 0 Tes F	tCode: EF RunNo: 93 SeqNo: 33 %REC 95.3 222 tCode: EF	PA Method 3 3774 366975 LowLimit 70 37.7 PA Method 3 3374	8015D: Gasol Units: mg/K HighLimit 130 212	g %RPD ine Range	RPDLimit	
Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID: Client ID:	WS22-01 0-2' 12/14/2022 e Organics (GRO) 2212806-001amsd WS22-01 0-2'	SampT Batch Analysis D Result 24 2200 SampT Batch	PQL 4.9 7ype: MS	5 084 2/16/2022 SPK value 24.70 988.1 50 084 2/16/2022	F SPK Ref Val 0 Tes F	tCode: EF RunNo: 93 SeqNo: 33 %REC 95.3 222 tCode: EF RunNo: 93 SeqNo: 33	PA Method 3 3774 366975 LowLimit 70 37.7 PA Method 3 3374	8015D: Gasol Units: mg/K HighLimit 130 212 8015D: Gasol	g %RPD ine Range	RPDLimit	
Sample ID: Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID: Client ID: Prep Date: Analyte	WS22-01 0-2' 12/14/2022 e Organics (GRO) 2212806-001amsd WS22-01 0-2'	SampT Batch Analysis D Result 24 2200 SampT Batch Analysis D	PQL 4.9 720 720 720 720 720 720 720 720 720 720	5 084 2/16/2022 SPK value 24.70 988.1 50 084 2/16/2022	F SPK Ref Val 0 Tes F	tCode: EF RunNo: 93 SeqNo: 33 %REC 95.3 222 tCode: EF RunNo: 93 SeqNo: 33	PA Method 3 3374 366975 LowLimit 70 37.7 PA Method 3 3374 366976	8015D: Gasol Units: mg/K HighLimit 130 212 8015D: Gasol Units: mg/K	g %RPD line Range	RPDLimit	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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2212806

21-Dec-22

Client: Project:	Vertex Re Tomcat 17			Inc.							
Sample ID:	lcs-72084	SampT	Type: LC	s	Tes	tCode: EP	A Method	8021B: Volat	iles		
Client ID:	LCSS	Batcl	h ID: 720	84	F	RunNo: <b>9</b> 3	374				
Prep Date:	12/14/2022	Analysis [	Date: 12	/16/2022	S	SeqNo: 33	66994	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.92	0.025	1.000	0	92.1	80	120			
Toluene		0.94	0.050	1.000	0	94.0	80	120			
Ethylbenzene		0.94	0.050	1.000	0	94.1	80	120			
Xylenes, Total		2.8	0.10	3.000	0	93.8	80	120			
Surr: 4-Brom	nofluorobenzene	1.1		1.000		106	70	130			
Sample ID:	mb-72084	SampT	Гуре: <b>МВ</b>	LK	Tes	tCode: EP	A Method	8021B: Volat	iles		
Client ID:	PBS	Batcl	h ID: <b>720</b>	84	F	RunNo: <b>93</b>	374				
Prep Date:	12/14/2022	Analysis [	Date: 12	/16/2022	S	SeqNo: 33	66995	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-Brom	nofluorobenzene	1.1		1.000		106	70	130			
Sample ID:	2212806-002ams	SampT	Гуре: <b>MS</b>	;	Tes	tCode: EP	A Method	8021B: Volat	iles		
Sample ID: Client ID:	2212806-002ams WS22-02 0-2'		Гуре: <b>МS</b> h ID: <b>720</b>			tCode: EF RunNo: 93		8021B: Volat	iles		
			h ID: 720	)84	F		374	8021B: Volat Units: mg/K			
Client ID:	WS22-02 0-2'	Batcl	h ID: 720	)84 /16/2022	F	RunNo: <b>93</b>	374			RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene	WS22-02 0-2'	Batcl Analysis I Result 1.0	h ID: <b>720</b> Date: <b>12</b> PQL 0.025	984 /16/2022 SPK value 0.9950	F SPK Ref Val 0	RunNo: <b>93</b> SeqNo: <b>33</b> %REC 103	<b>374</b> <b>667000</b> LowLimit 68.8	Units: <b>mg/K</b> HighLimit 120	ſg	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene	WS22-02 0-2'	Batcl Analysis I Result 1.0 1.0	h ID: <b>720</b> Date: <b>12</b> PQL 0.025 0.050	084 /16/2022 SPK value 0.9950 0.9950	F S SPK Ref Val	RunNo: 93 SeqNo: 33 %REC 103 105	67000 LowLimit 68.8 73.6	Units: <b>mg/K</b> HighLimit 120 124	ſg	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene	WS22-02 0-2'	Batch Analysis I Result 1.0 1.0 1.1	h ID: 720 Date: 12 PQL 0.025 0.050 0.050	084 /16/2022 SPK value 0.9950 0.9950 0.9950	F SPK Ref Val 0 0 0	RunNo: 93 SeqNo: 33 %REC 103 105 106	<b>374</b> <b>67000</b> LowLimit 68.8 73.6 72.7	Units: <b>mg/K</b> HighLimit 120 124 129	ſg	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	WS22-02 0-2' 12/14/2022	Batcl Analysis I Result 1.0 1.0 1.1 3.2	h ID: <b>720</b> Date: <b>12</b> PQL 0.025 0.050	084 /16/2022 SPK value 0.9950 0.9950 0.9950 2.985	F SPK Ref Val 0 0	RunNo: 93 SeqNo: 33 %REC 103 105 106 107	<b>a774</b> <b>a67000</b> LowLimit 68.8 73.6 72.7 75.7	Units: <b>mg/K</b> HighLimit 120 124 129 126	ſg	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	WS22-02 0-2'	Batch Analysis I Result 1.0 1.0 1.1	h ID: 720 Date: 12 PQL 0.025 0.050 0.050	084 /16/2022 SPK value 0.9950 0.9950 0.9950	F SPK Ref Val 0 0 0	RunNo: 93 SeqNo: 33 %REC 103 105 106	<b>374</b> <b>67000</b> LowLimit 68.8 73.6 72.7	Units: <b>mg/K</b> HighLimit 120 124 129	ſg	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom	WS22-02 0-2' 12/14/2022	Batcl Analysis I Result 1.0 1.0 1.1 3.2 1.1	h ID: 720 Date: 12 PQL 0.025 0.050 0.050	084 /16/2022 SPK value 0.9950 0.9950 2.985 0.9950	F SPK Ref Val 0 0 0 0	RunNo: 93 SeqNo: 33 %REC 103 105 106 107 108	267000 LowLimit 68.8 73.6 72.7 75.7 70	Units: <b>mg/K</b> HighLimit 120 124 129 126	<b>g</b> %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom	WS22-02 0-2' 12/14/2022 nofluorobenzene	Batch Analysis I Result 1.0 1.0 1.1 3.2 1.1 Samp <sup>1</sup>	h ID: 720 Date: 12 PQL 0.025 0.050 0.050 0.10	084 /16/2022 SPK value 0.9950 0.9950 2.985 0.9950	F SPK Ref Val 0 0 0 0 0 Tes	RunNo: 93 SeqNo: 33 %REC 103 105 106 107 108	2374 267000 268.8 73.6 72.7 75.7 70 24 Method	Units: <b>mg/K</b> HighLimit 120 124 129 126 130	<b>g</b> %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brorr Sample ID:	WS22-02 0-2' 12/14/2022 hofluorobenzene 2212806-002amsd	Batch Analysis I Result 1.0 1.0 1.1 3.2 1.1 Samp <sup>1</sup>	h ID: 720 Date: 12 PQL 0.025 0.050 0.050 0.10 Fype: MS h ID: 720	084 /16/2022 SPK value 0.9950 0.9950 2.985 0.9950 5D 084	F SPK Ref Val 0 0 0 0 Tes F	RunNo: 93 SeqNo: 33 %REC 103 105 106 107 108 tCode: EF	2374 267000 68.8 73.6 72.7 75.7 70 24 Method 3374	Units: <b>mg/K</b> HighLimit 120 124 129 126 130	íg %RPD iles	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID:	WS22-02 0-2' 12/14/2022 nofluorobenzene 2212806-002amsd WS22-02 0-2'	Batcl Analysis I Result 1.0 1.0 1.1 3.2 1.1 Samp Batcl	h ID: 720 Date: 12 PQL 0.025 0.050 0.050 0.10 Fype: MS h ID: 720	084 /16/2022 SPK value 0.9950 0.9950 2.985 0.9950 5D 084 /16/2022	F SPK Ref Val 0 0 0 0 Tes F	RunNo: 93 SeqNo: 33 %REC 103 105 106 107 108 tCode: EF	2374 267000 68.8 73.6 72.7 75.7 70 24 Method 3374	Units: mg/K HighLimit 120 124 129 126 130 8021B: Volat	íg %RPD iles	RPDLimit	Qual
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date:	WS22-02 0-2' 12/14/2022 nofluorobenzene 2212806-002amsd WS22-02 0-2'	Batcl Analysis I Result 1.0 1.0 1.1 3.2 1.1 Samp Batcl Analysis I	h ID: 720 Date: 12 PQL 0.025 0.050 0.050 0.10 Type: MS h ID: 720 Date: 12	084 /16/2022 SPK value 0.9950 0.9950 2.985 0.9950 5D 084 /16/2022	F SPK Ref Val 0 0 0 0 Tes F	RunNo: 93 SeqNo: 33 %REC 103 105 106 107 108 tCode: EP RunNo: 93 SeqNo: 33	2374 267000 2000 2000 2000 2000 2000 2000 20	Units: mg/K HighLimit 120 124 129 126 130 8021B: Volat Units: mg/K	Sg %RPD iles		
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte	WS22-02 0-2' 12/14/2022 nofluorobenzene 2212806-002amsd WS22-02 0-2'	Batcl Analysis I Result 1.0 1.0 1.1 3.2 1.1 Samp Batcl Analysis I Result	h ID: 720 Date: 12 PQL 0.025 0.050 0.050 0.10 Fype: MS h ID: 720 Date: 12 PQL	084 /16/2022 SPK value 0.9950 0.9950 2.985 0.9950 50 84 /16/2022 SPK value	F SPK Ref Val 0 0 0 0 Tes F SPK Ref Val	RunNo: 93 SeqNo: 33 %REC 103 105 106 107 108 tCode: EF RunNo: 93 SeqNo: 33 %REC	2374 267000 2000 2010 2010 2010 2010 2010 2010	Units: <b>mg/K</b> HighLimit 120 124 129 126 130 <b>8021B: Volat</b> Units: <b>mg/K</b> HighLimit	Sg %RPD iles Sg %RPD	RPDLimit	
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte Benzene	WS22-02 0-2' 12/14/2022 nofluorobenzene 2212806-002amsd WS22-02 0-2'	Batcl Analysis I Result 1.0 1.0 1.1 3.2 1.1 Samp Batcl Analysis I Result 1.0	h ID: 720 Date: 12 PQL 0.025 0.050 0.050 0.10 Fype: MS h ID: 720 Date: 12 PQL 0.025	084 /16/2022 SPK value 0.9950 0.9950 2.985 0.9950 0.9950 50 84 /16/2022 SPK value 0.9930	F SPK Ref Val 0 0 0 0 Tes F SPK Ref Val 0	RunNo: 93 SeqNo: 33 %REC 103 105 106 107 108 tCode: EF RunNo: 93 SeqNo: 33 %REC 102	374 667000 LowLimit 68.8 73.6 72.7 75.7 70 24 Method 374 667001 LowLimit 68.8	Units: mg/K HighLimit 120 124 129 126 130 8021B: Volat Units: mg/K HighLimit 120	5g %RPD iles 5g %RPD 0.816	RPDLimit 20	
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID: Client ID: Prep Date: Analyte Benzene Toluene	WS22-02 0-2' 12/14/2022 nofluorobenzene 2212806-002amsd WS22-02 0-2'	Batcl Analysis I Result 1.0 1.0 1.1 3.2 1.1 Samp <sup>T</sup> Batcl Analysis I Result 1.0 1.0	h ID: 720 Date: 12 PQL 0.025 0.050 0.050 0.10 Fype: MS h ID: 720 Date: 12 PQL 0.025 0.050	084 /16/2022 SPK value 0.9950 0.9950 2.985 0.9950 0.9950 0.9950 0.9950 2.985 0.9950 0.9930 0.9930 0.9930 0.9930	SPK Ref Val 0 0 0 0 0 Tes SPK Ref Val 0 0	RunNo: 93 SeqNo: 33 %REC 103 105 106 107 108 tCode: EF RunNo: 93 SeqNo: 33 %REC 102 106	374 567000 LowLimit 68.8 73.6 72.7 75.7 70 74 Method 374 567001 LowLimit 68.8 73.6	Units: mg/K HighLimit 120 124 129 126 130 8021B: Volat Units: mg/K HighLimit 120 124	5g %RPD iles 5g %RPD 0.816 0.306	RPDLimit 20 20	

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of 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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2212806

21-Dec-22

HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345	ental Analysis Labord 4901 Hawkin Albuquerque, NM 8 3975 FAX: 505-345- w.hallenvironmental	s NE 7109 Sam 4107	ple Log-In Che	eck List
Client Name: Vertex Resou Services, Inc.	rces Work Order Nurr	nber: 2212806		RcptNo: 1	
Received By: Cheyenne C			Chent S-L		
Completed By: Sean Living		2 AM	Sala	John	
Reviewed By:	12/14/2				
Chain of Custody					
1. Is Chain of Custody complet	e?	Yes 🗹	No 🗌	Not Present	
2. How was the sample delivered	ed?	Courier			
Log In 3. Was an attempt made to coo	I the samples?	Yes 🗹	No 🗌	na 🗋	
4. Were all samples received at	a temperature of >0° C to 6.0°C	Yes 🗌	No 🗹		
		were collected the Yes V	same day and No	chilled.	
5. Sample(s) in proper containe	4(5)?	res 💌			
6. Sufficient sample volume for	indicated test(s)?	Yes 🗹	No 🗌		
7. Are samples (except VOA an	d ONG) properly preserved?	Yes 🗹	No 🗌		
8. Was preservative added to be	ottles?	Yes	No 🗹	NA 🗌	
9. Received at least 1 vial with h	neadspace <1/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹	
10. Were any sample containers	received broken?	Yes	No 🗹 🛛	# of preserved	/
11. Does paperwork match bottle (Note discrepancies on chain		Yes 🗹	No 🗆	bottles checked for pH:	2 unless noted)
12 Are matrices correctly identifi		Yes 🗹	No 🗌	Adjusted?	,
13. Is it clear what analyses were		Yes 🗹	No 🗌		4
14. Were all holding times able to	be met?	Yes 🗹	No 🗆	Checked by:	× 12.14-73
(If no, notify customer for aut				0	
Special Handling (if appli 15. Was client notified of all disc		Yes 🗌	No 🗌	NA 🔽	
Person Notified:	Date	,		In Person	
Regarding:	Via:	] eMail F	hone 🗌 Fax		
Client Instructions:					
16. Additional remarks:					
17. Cooler Information					
Cooler No Temp °C	Condition Seal Intact Seal No	Seal Date	Signed By		
1 -1.3 0	Good				

Released to Imaging: 3/13/2024 10:44:45 AM

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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.

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Receive Con 994	A-UPLOY	Receive Chound Stoury Mecord	Turn-Around Time:	Time:				-	1	-		5	0	MIN	Pag	Page 256 of 309	f 309
Client:	Vertex		Standard		5 Davy				N N	A L	S	S		NO R	Ĭ	ANALYSIS LABORATORY	
	(direct bi	(direct bill to Devon)	Project Name:	+					Ŵ	v.hall	enviro	nmer	www.hallenvironmental.com	E			
Mailing Address:			Tomcat 17 Federal #001	ederal #001			4901	Нам	4901 Hawkins NE	ч Щ	Albuc	Inerq	ue, NI	Albuquerque, NM 87109	g		
			Project #:				Tel.	505-	505-345-3975	975	Fax		505-345-4107	4107			1
Phone #:			22E-02816-27	2						A	Analysis	s Re	Request				
email or Fax#			Project Manager:	ger:		(1	(0)	-			*O3	-	( <u>)</u> u				
QA/QC Package:	e:		Kent Stallings			208		s.g	SM		S '*C	_	əsq\				
□ Standard		Level 4 (Full Validation)	kstallings@vertex	ertex.ca		) s,{		<u>а</u>	150		) РС		∦/tu				
Accreditation:		Az Compliance	Sampler:	L.Pullman		IME					ZON	(					
			On Ice:	Ø Yes	O No	. /		_		S	<sup>3, 1</sup>	AC					
🗆 EDD (Type)	(1		# of Coolers: {	1		38.				lete			_				
			Cooler Temp(Including CF)	Including CF) - [ , ]	1-0.2 - 1.3	LM				W 8							
Date Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL NO.	/ ХЭТ8	08:H9T	9 1808 1 PB (N	d sHAq	АЯЭЯ	Cl' E' F	6) 0728 2) 0728	D letoT				
12/12/22 7:45	Soil	WS22-01 0-2'	1, 4oz jar		100	×	X				×						
12/12/22 7:55	Soil	WS22-02 0-2'	1, 4oz jar		200	×	×				×						
12/12/22 8:00	Soil	WS22-03 0-2'	1, 4oz jar		003	×	×				×						
12/12/22 8:05	Soil	WS22-04 0-2'	1, 4oz jar		500	×	×	_			×						
12/12/22 8:10	Soil	WS22-05 0-2'	1, 4oz jar		200	×	×				×						
12/12/22 9:00	Soil	WS22-06 0-4'	1, 4oz jar		200	×	×				×						
12/12/22 9:05	Soil	WS22-07 0-4'	1, 4oz jar		t=80	×	×				×						
12/12/22 9:10	Soil	WS22-08 0-4'	1, 4oz jar		20%	×	×				×						
12/12/22 9:15	Soil	WS22-09 0-4'	1, 4oz jar		500	×	×				×						
12/12/22 9:30	Soil	WS22-10 0-4'	1, 4oz jar		010	×	×				×						
12/12/22 9:35	Soil	WS22-11 0-4'	1, 4oz jar		011	×	×				×						
12/12/22 9:40	Soil	WS22-12 2-4'	1, 4oz jar		20	×	X				×						
Date: Time:	Relinquished W:	Part W. ///	Received by:	Via:	Date Time	Ren	Remarks					:					
1		~~ MUMA	aluuu	win	8	Dire C.	ct bill stalli	to D ngs@	Direct bill to Devon, Dale Woodall cc. kstallings@vertex.ca for Final	ex.ca	for F	inal F	Direct bill to Devon, Dale Woodall cc. kstallings@vertex.ca for Final Report	Ļ			
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December 21, 2022

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

RE: Tomcat 17 Federal 1

OrderNo.: 2212905

Hall Environmental Analysis Laboratory

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

Website: www.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/15/2022 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** Lab Order 2212905

Date Reported: 12/21/2022

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BS22-05 4' **Project:** Tomcat 17 Federal 1 Collection Date: 12/13/2022 9:20:00 AM Lab ID: 2212905-001 Matrix: SOIL Received Date: 12/15/2022 7:55:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: SB **Diesel Range Organics (DRO)** ND 15 mg/Kg 1 12/16/2022 6:59:57 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/16/2022 6:59:57 PM Surr: DNOP 105 21-129 %Rec 1 12/16/2022 6:59:57 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 12/17/2022 8:02:46 AM 4.9 mg/Kg 1 Surr: BFB 82.3 37.7-212 %Rec 1 12/17/2022 8:02:46 AM **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 12/17/2022 8:02:46 AM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/17/2022 8:02:46 AM Ethylbenzene ND 0.049 mg/Kg 1 12/17/2022 8:02:46 AM Xylenes, Total ND 0.098 mg/Kg 12/17/2022 8:02:46 AM 1 Surr: 4-Bromofluorobenzene 80.2 70-130 %Rec 1 12/17/2022 8:02:46 AM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 12/16/2022 8:08:00 PM 2000 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 1 of 9

Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 1

2212905-002

**Analytical Report** Lab Order 2212905

Date Reported: 12/21/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS22-06 4' Collection Date: 12/13/2022 1:30:00 PM Received Date: 12/15/2022 7:55:00 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	15	mg/Kg	1	12/16/2022 7:23:51 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/16/2022 7:23:51 PM
Surr: DNOP	111	21-129	%Rec	1	12/16/2022 7:23:51 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/17/2022 9:11:46 AM
Surr: BFB	80.3	37.7-212	%Rec	1	12/17/2022 9:11:46 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	12/17/2022 9:11:46 AM
Toluene	ND	0.048	mg/Kg	1	12/17/2022 9:11:46 AM
Ethylbenzene	ND	0.048	mg/Kg	1	12/17/2022 9:11:46 AM
Xylenes, Total	ND	0.097	mg/Kg	1	12/17/2022 9:11:46 AM
Surr: 4-Bromofluorobenzene	84.0	70-130	%Rec	1	12/17/2022 9:11:46 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4400	150	mg/Kg	50	12/19/2022 10:51:23 AM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

- % Recovery outside of standard limits. If undiluted results may be estimated. S
- Analyte detected in the associated Method Blank в
- Above Quantitation Range/Estimated Value Е
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit Page 2 of 9

Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 1

2212905-003

**Analytical Report** Lab Order 2212905

Date Reported: 12/21/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS22-07 4' Collection Date: 12/13/2022 2:50:00 PM Received Date: 12/15/2022 7:55:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: SB
Diesel Range Organics (DRO)	ND	14	mg/Kg	1	12/16/2022 7:47:39 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/16/2022 7:47:39 PM
Surr: DNOP	102	21-129	%Rec	1	12/16/2022 7:47:39 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/17/2022 10:20:56 AM
Surr: BFB	80.0	37.7-212	%Rec	1	12/17/2022 10:20:56 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	12/17/2022 10:20:56 AM
Toluene	ND	0.048	mg/Kg	1	12/17/2022 10:20:56 AM
Ethylbenzene	ND	0.048	mg/Kg	1	12/17/2022 10:20:56 AM
Xylenes, Total	ND	0.097	mg/Kg	1	12/17/2022 10:20:56 AM
Surr: 4-Bromofluorobenzene	83.0	70-130	%Rec	1	12/17/2022 10:20:56 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	2700	150	mg/Kg	50	12/19/2022 11:03:44 AM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- Above Quantitation Range/Estimated Value Е
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit Page 3 of 9

Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 1

2212905-004

**Analytical Report** Lab Order 2212905

Date Reported: 12/21/2022

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS22-08 4' Collection Date: 12/13/2022 11:00:00 AM Received Date: 12/15/2022 7:55:00 AM

	New Soll			12, 10,	
Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	43	14	mg/Kg	1	12/18/2022 5:01:51 PM
Motor Oil Range Organics (MRO)	100	47	mg/Kg	1	12/18/2022 5:01:51 PM
Surr: DNOP	109	21-129	%Rec	1	12/18/2022 5:01:51 PM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/17/2022 10:44:02 AM
Surr: BFB	80.0	37.7-212	%Rec	1	12/17/2022 10:44:02 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.024	mg/Kg	1	12/17/2022 10:44:02 AM
Toluene	ND	0.049	mg/Kg	1	12/17/2022 10:44:02 AM
Ethylbenzene	ND	0.049	mg/Kg	1	12/17/2022 10:44:02 AM
Xylenes, Total	ND	0.098	mg/Kg	1	12/17/2022 10:44:02 AM
Surr: 4-Bromofluorobenzene	82.7	70-130	%Rec	1	12/17/2022 10:44:02 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	4900	300	mg/Kg	100	12/19/2022 11:16:05 AM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

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

Page 4 of 9

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 1

**Analytical Report** Lab Order 2212905

Date Reported: 12/21/2022

### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: BS22-09 4' Collection Date: 12/13/2022 9:25:00 AM Received Date: 12/15/2022 7:55:00 AM

Lab ID: 2212905-005	Matrix: SOIL	Rece	ived Date:	12/15/	2022 7:55:00 AM
Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANG	EORGANICS				Analyst: DGH
Diesel Range Organics (DRO)	18	15	mg/Kg	1	12/19/2022 4:05:09 PM
Motor Oil Range Organics (MRO)	54	49	mg/Kg	1	12/19/2022 4:05:09 PM
Surr: DNOP	101	21-129	%Rec	1	12/19/2022 4:05:09 PM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/17/2022 11:07:11 AM
Surr: BFB	79.3	37.7-212	%Rec	1	12/17/2022 11:07:11 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.025	mg/Kg	1	12/17/2022 11:07:11 AM
Toluene	ND	0.049	mg/Kg	1	12/17/2022 11:07:11 AM
Ethylbenzene	ND	0.049	mg/Kg	1	12/17/2022 11:07:11 AM
Xylenes, Total	ND	0.098	mg/Kg	1	12/17/2022 11:07:11 AM
Surr: 4-Bromofluorobenzene	82.2	70-130	%Rec	1	12/17/2022 11:07:11 AM
EPA METHOD 300.0: ANIONS					Analyst: CAS
Chloride	3200	150	mg/Kg	50	12/19/2022 11:28:26 AM

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

**Qualifiers:** 

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

- н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

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

RL

Page 5 of 9

Client: Project:		x Resources Se at 17 Federal 1		Inc.							
Sample ID:	MB-72145	SampTy	/pe: mb	lk	Tes	tCode: EP					
Client ID:	PBS	Batch	ID: <b>72</b> 1	45	F	RunNo: <b>9</b> 3	360				
Prep Date:	12/16/2022	Analysis Da	ate: 12	/16/2022	S	SeqNo: 33	867791	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID:	LCS-72145	SampTy	/pe: <b>lcs</b>		Tes	tCode: EF	A Method	300.0: Anions	6		
Client ID:	LCSS	Batch	ID: <b>72</b> 1	45	F	RunNo: <b>93</b>	360				
Prep Date:	12/16/2022	Analysis Da	ate: 12	/16/2022	S	SeqNo: 33	867792	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		15	1.5	15.00	0	97.0	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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2212905

21-Dec-22

Client: Project:		esources S 7 Federal	,	Inc.								
Sample ID: L	CS-72133	SampT	Гуре: <b>LC</b>	S	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: L	CSS	Batch	h ID: 72	133	F	RunNo: 93	3356					
Prep Date:	12/15/2022	Analysis D	Date: 12	/16/2022	S	SeqNo: 33	366255	Units: mg/K	g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Org	ganics (DRO)	44	15	50.00	0	88.0	64.4	127				
Surr: DNOP		4.6		5.000		92.7	21	129				
Sample ID: N	/IB-72133	SampT	Type: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics		
Client ID: P	PBS	Batch	h ID: <b>72</b> ′	133	F	RunNo: 93	3356					
Prep Date:	12/15/2022	Analysis D	Date: 12	/16/2022	S	SeqNo: 33	366256	Units: mg/K	g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Org	ganics (DRO)	ND	15									
Motor Oil Range	Organics (MRO)	ND	50									
Surr: DNOP		13		10.00		133	21	129			S	
Sample ID: L	CS-72140	SampT	Гуре: <b>LC</b>	s	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics		
Client ID: L	CSS	Batch	h ID: <b>72</b> ′	140	F	RunNo: <b>9</b> 3	3393					
Prep Date:	12/16/2022	Analysis D	Date: 12	/19/2022	S	SeqNo: 33	368186	Units: <b>mg/K</b>	g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Org	ganics (DRO)	38	15	50.00	0	76.4	64.4	127				
Surr: DNOP		5.2		5.000		103	21	129				
Sample ID: N	/IB-72140	SampT	Гуре: МЕ	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics		
Client ID: P	PBS	Batch	h ID: <b>72</b> ′	140	F	RunNo: <b>9</b> 3	3393					
Prep Date:	12/16/2022	Analysis D	Date: 12	/19/2022	S	SeqNo: 33	368187	Units: mg/K	g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Org	ganics (DRO)	ND	15									
Motor Oil Range	Organics (MRO)	ND	50									
Surr: DNOP		9.6		10.00		96.2	21	129				

#### **Qualifiers:**

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

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WO#: 2212905 21-Dec-22

Client: Project:	Vertex Re Tomcat 17		,	Inc.							
Sample ID:	mb-72124	SampT	уре: МЕ	BLK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID:	PBS	Batch	ID: 721	124	F	RunNo: <b>9</b> :	3355				
Prep Date:	12/15/2022	Analysis D	ate: 12	/17/2022	5	SeqNo: 3	366805	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	je Organics (GRO)	ND 790	5.0	1000		78.7	37.7	212			
Sample ID:	lcs-72124	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID:	LCSS	Batch	ID: 721	124	F	RunNo: <b>9</b> :	3355				
Prep Date:	12/15/2022	Analysis D	ate: 12	/17/2022	S	SeqNo: 3	366806	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	e Organics (GRO)	22	5.0	25.00	0	86.7	72.3	137			
Surr: BFB		1700		1000		170	37.7	212			
Sample ID:	2212905-001ams	SampT	ype: MS	5	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID:	BS22-05 4'	Batch	ID: 721	124	F	RunNo: 9:	3355				
Prep Date:	12/15/2022	Analysis D	ate: 12	/17/2022	S	SeqNo: 3	366808	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	23	4.9	24.56	0	93.0	70	130			
Surr: BFB		1700		982.3		176	37.7	212			
Sample ID:	2212905-001amsd	SampT	ype: MS	D	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID:	BS22-05 4'	Batch	ID: 721	124	F	RunNo: <b>9</b> :	3355				
Prep Date:	12/15/2022	Analysis D	ate: 12	/17/2022	S	SeqNo: 3	366809	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
-	e Organics (GRO)	22	4.9	24.61	0	89.6	70	130	3.57	20	<u>_</u>
Surr: BFB		1700		984.3		176	37.7	212	0	0	

#### **Qualifiers:**

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

2212905

21-Dec-22

	lesources S	· · · · · ·	Inc.							
Project: Tomcat	17 Federal	1								
Sample ID: mb-72124	Samp	Туре: МЕ	BLK	Tes	stCode: EF	PA Method	8021B: Volat	iles		
Client ID: PBS	Bato	h ID: <b>72</b> 1	24	F	RunNo: <b>9</b> 3	3355				
Prep Date: 12/15/2022	Analysis	Date: 12	/17/2022	:	SeqNo: 3	366878	Units: <b>mg/K</b>	(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	0.82		1.000		81.6	70	130			
Sample ID: LCS-72124	Samp	Туре: <b>LC</b>	S	Tes	stCode: EF	PA Method	8021B: Volat	iles		
Client ID: LCSS	Bato	h ID: 721	24	F	RunNo: 93	3355				
Prep Date: 12/15/2022	Analysis	Date: 12	/17/2022	\$	SeqNo: 3	366879	Units: <b>mg/K</b>	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	84.5	80	120			
Toluene	0.87	0.050	1.000	0	86.8	80	120			
Ethylbenzene	0.85	0.050	1.000	0	84.9	80	120			
Xylenes, Total	2.6	0.10	3.000	0	85.1	80	120			
Surr: 4-Bromofluorobenzene	0.83		1.000		83.4	70	130			
Sample ID: 2212905-002ams	Samp	Туре: <b>МS</b>	5	Tes	stCode: EF	PA Method	8021B: Volat	iles		
Client ID: BS22-06 4'	Bato	h ID: <b>72</b> 1	124	F	RunNo: 93	3355				
Prep Date: 12/15/2022	Analysis	Date: 12	/17/2022	\$	SeqNo: 3	366882	Units: <b>mg/K</b>	(g		
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9718	0	91.2	68.8	120			
Toluene	0.93	0.049	0.9718	0	95.6	73.6	124			
Ethylbenzene	0.92	0.049	0.9718	0	95.2	72.7	129			
Xylenes, Total	2.8	0.097	2.915	0.01814	94.7	75.7	126			
Surr: 4-Bromofluorobenzene	0.81		0.9718		83.7	70	130			
Sample ID: 2212905-002amsc	Samp	Туре: <b>МS</b>	D	Tes	stCode: EF	PA Method	8021B: Volat	iles		
Client ID: BS22-06 4'	Bato	:h ID: <b>72</b> 1	124	F	RunNo: <b>9</b> :	3355				
Prep Date: 12/15/2022	Analysis	Date: 12	/17/2022	:	SeqNo: 3	366883	Units: <b>mg/K</b>	(g		
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.024	0.9737	0	94.7	68.8	120	3.92	20	
Toluene	0.98	0.049	0.9737	0	100	73.6	124	5.16	20	
Ethylbenzene	0.97	0.049	0.9737	0	99.8	72.7	129	4.96	20	
Xylenes, Total	2.9	0.097	2.921	0.01814	98.9	75.7	126	4.51	20	
Surr: 4-Bromofluorobenzene	0.82		0.9737		84.7	70	130	0	0	

#### Qualifiers:

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- 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

2212905

21-Dec-22

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albi TEL: 505-345-3975 Website: www.ha	4901 Hawkin uquerque, NM 8 FAX: 505-345-	ns NE 87109 San 4107	ample Log-In Check List				
Client Name: Vertex Resources Services, Inc.	Work Order Number:	2212905		RcptNo:	1			
Received By: Tracy Casarrubias	12/15/2022 7:55:00 AM	А						
Completed By: Tracy Casarrubias	12/15/2022 8:10:38 AM	И						
Reviewed By: 12.15.27								
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 samples?		Yes 🗹	No 🗌	NA 🗌				
4. Were all samples received at a temperature	of >0° C to 6.0°C	Yes 🗹	No 🗌	na 🗆				
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌					
6. Sufficient sample volume for indicated test(s)	?	Yes 🗹	No 🗌					
7. Are samples (except VOA and ONG) properly	y 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 broke	n?	Yes 🗋	No 🗹	# of preserved				
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗌	bottles checked for pH: (<2.er>	12 unless noted)			
12. Are matrices correctly identified on Chain of	Custody?	Yes 🗹	No 🗌	Adjusted?				
13. Is it clear what analyses were requested?		Yes 🗹	No 🗌					
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No 🗌	Checked by:	24 12.15.22			
Special Handling (if applicable)								
15. Was client notified of all discrepancies with t	his order?	Yes 🗌	No 🗌	NA 🗹				
Person Notified:	Date:							
By Whom:	Via:	eMail 📋 🕯	Phone 🗌 Fax	In Person				
Regarding:								
Client Instructions:								
16. Additional remarks:								
17. <u>Cooler Information</u> Cooler No Temp <sup>o</sup> C Condition Se 1 1.1 Good Yes		Seal Date	Signed By					
				line a				

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Page 269 of 309		ANALYSIS LABORATORY		4901 Hawkins NE - Albuquerque. NM 87109		Anal	(0		иО <sup>5,</sup> 1.1) 8082   1.1) 7.02	092; 93,29 10 01 11 11 10 10 10 10 10 10 10 10 10 10 1	bD(G bod 831( Meta Neta NC A)	Ser by 8 by 8 by 1 by 1 by 1 by 1 by 1 by 1 by 1 by 1	1PH:8 8081 F PAHs RCRA В260 ( В260 ( В260 (									Remarks:	Send to Lawra Caldirwood	and Dale Woodard	as as notion of this monochilth. Any only contracted date will be also due to the date of the other of the other
	Turn-Around Time:	Z Standard Rush D D11	Project Name:	Tomcat 17 Federal 1	Project #:	21E - 02816 - 27		Stallings	SPC	Ves 🗆 No		121 1-12 A	Type and # Type	- ice 001		003	004	COC				Time	unin apply mo	Via:Ceuton	This sand
Received by OCD: 3/12/2024 1:36:40 PM	hain-of-Custody Record	Client: VERTEX (DEVON)		Mailing Address: OM kill	Λ	Phone #:	email or Fax#: CC: SCQr ++Qr Ver +K.CD	QA/QC Package:	□ Az Compliance				Sample Name	12/13 9:20 Soil BS22-05 4'	13:30 BS22-06 4'	14:50 BS22- D7 4'	11:00 3522-08 4'	1 9:25 BS22-09 4'				Relinquished by:	Sally Pertion	1000 1000 August Relinquished/by:	- O

anaiyucai report. ~ 2 5 10000 d Released to Imaging: 3/13/2024 10:44:45 AM

•



January 06, 2023

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

RE: Tomcat 17 Federal 1

OrderNo.: 2212E06

Hall Environmental Analysis Laboratory

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

Website: www.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 8 sample(s) on 12/28/2022 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Date Reported: 1/6/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BS22-10 4' **Project:** Tomcat 17 Federal 1 Collection Date: 12/22/2022 9:00:00 AM Lab ID: 2212E06-001 Matrix: SOIL Received Date: 12/28/2022 6:50:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** 61 15 mg/Kg 1 12/30/2022 1:49:02 PM Motor Oil Range Organics (MRO) 160 50 mg/Kg 1 12/30/2022 1:49:02 PM 21-129 Surr: DNOP 128 %Rec 1 12/30/2022 1:49:02 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/29/2022 1:02:00 PM 4.9 mg/Kg 1 Surr: BFB 113 37.7-212 %Rec 1 12/29/2022 1:02:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: RAA Benzene ND 12/29/2022 1:02:00 PM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/29/2022 1:02:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/29/2022 1:02:00 PM Xylenes, Total ND 0.097 mg/Kg 12/29/2022 1:02:00 PM 1 Surr: 4-Bromofluorobenzene 119 70-130 %Rec 1 12/29/2022 1:02:00 PM **EPA METHOD 300.0: ANIONS** Analyst: NAI Chloride mg/Kg 4200 150 50 1/5/2023 3:11:16 AM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceed

H Holding times for preparation or analysis exceeded

NDNot Detected at the Reporting LimitPQLPractical 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

RL Report

Page 1 of 15

Date Reported: 1/6/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BS22-11 4' **Project:** Tomcat 17 Federal 1 Collection Date: 12/22/2022 9:05:00 AM Lab ID: 2212E06-002 Matrix: SOIL Received Date: 12/28/2022 6:50:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** 280 15 mg/Kg 1 1/4/2023 11:27:56 AM Motor Oil Range Organics (MRO) 480 49 mg/Kg 1 1/4/2023 11:27:56 AM Surr: DNOP 100 21-129 %Rec 1 1/4/2023 11:27:56 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/29/2022 2:04:00 PM 5.0 mg/Kg 1 Surr: BFB 101 37.7-212 %Rec 1 12/29/2022 2:04:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: RAA Benzene ND 12/29/2022 2:04:00 PM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 12/29/2022 2:04:00 PM Ethylbenzene ND 0.050 mg/Kg 1 12/29/2022 2:04:00 PM Xylenes, Total ND mg/Kg 1 12/29/2022 2:04:00 PM 0.099 Surr: 4-Bromofluorobenzene 113 70-130 %Rec 1 12/29/2022 2:04:00 PM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride mg/Kg 1/3/2023 10:04:32 AM 2500 150 50

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits

Р Sample pH Not In Range RL Reporting Limit

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Date Reported: 1/6/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BS22-12 4' **Project:** Tomcat 17 Federal 1 Collection Date: 12/22/2022 9:10:00 AM Lab ID: 2212E06-003 Matrix: SOIL Received Date: 12/28/2022 6:50:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** 250 15 mg/Kg 1 1/4/2023 12:10:00 PM Motor Oil Range Organics (MRO) 480 49 mg/Kg 1 1/4/2023 12:10:00 PM Surr: DNOP 104 21-129 %Rec 1 1/4/2023 12:10:00 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/29/2022 4:22:00 PM 4.9 mg/Kg 1 Surr: BFB 108 37.7-212 %Rec 1 12/29/2022 4:22:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: RAA Benzene ND 12/29/2022 4:22:00 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/29/2022 4:22:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/29/2022 4:22:00 PM Xylenes, Total ND 0.098 mg/Kg 1 12/29/2022 4:22:00 PM Surr: 4-Bromofluorobenzene 118 70-130 %Rec 1 12/29/2022 4:22:00 PM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride mg/Kg 5400 300 100 1/3/2023 10:16:56 AM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

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

RL

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Date Reported: 1/6/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BS22-13 4' **Project:** Tomcat 17 Federal 1 Collection Date: 12/22/2022 9:15:00 AM Lab ID: 2212E06-004 Matrix: SOIL Received Date: 12/28/2022 6:50:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** 200 14 mg/Kg 1 12/30/2022 3:55:41 PM Motor Oil Range Organics (MRO) 470 48 mg/Kg 1 12/30/2022 3:55:41 PM Surr: DNOP 21-129 %Rec 1 12/30/2022 3:55:41 PM 116 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/29/2022 5:01:00 PM 4.9 mg/Kg 1 Surr: BFB 103 37.7-212 %Rec 1 12/29/2022 5:01:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: RAA Benzene ND 12/29/2022 5:01:00 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/29/2022 5:01:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/29/2022 5:01:00 PM Xylenes, Total ND 0.098 mg/Kg 1 12/29/2022 5:01:00 PM Surr: 4-Bromofluorobenzene 113 70-130 %Rec 1 12/29/2022 5:01:00 PM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride mg/Kg 4200 150 50 1/3/2023 10:29:20 AM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceed

H Holding times for preparation or analysis exceeded

NDNot Detected at the Reporting LimitPQLPractical 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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Lab ID:

**CLIENT:** Vertex Resources Services, Inc.

Tomcat 17 Federal 1

2212E06-005

**Analytical Report** Lab Order 2212E06

Date Reported: 1/6/2023

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WS22-14 4' Collection Date: 12/22/2022 9:30:00 AM Received Date: 12/28/2022 6:50:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS				Analyst: DGH
Diesel Range Organics (DRO)	ND	14	mg/Kg	1	12/29/2022 2:57:52 PM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/29/2022 2:57:52 PM
Surr: DNOP	112	21-129	%Rec	1	12/29/2022 2:57:52 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/29/2022 5:21:00 PM
Surr: BFB	107	37.7-212	%Rec	1	12/29/2022 5:21:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	12/29/2022 5:21:00 PM
Toluene	ND	0.050	mg/Kg	1	12/29/2022 5:21:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	12/29/2022 5:21:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	12/29/2022 5:21:00 PM
Surr: 4-Bromofluorobenzene	115	70-130	%Rec	1	12/29/2022 5:21:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	130	60	mg/Kg	20	12/30/2022 11:28:32 PM

Matrix: SOIL

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- Above Quantitation Range/Estimated Value Е
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit Page 5 of 15

Lab ID:

CLIENT: Vertex Resources Services, Inc.

Tomcat 17 Federal 1

2212E06-006

**Analytical Report** Lab Order 2212E06

Date Reported: 1/6/2023

### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WS22-15 4' Collection Date: 12/22/2022 9:35:00 AM Matrix: SOIL Received Date: 12/28/2022 6:50:00 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	14	mg/Kg	1	12/29/2022 3:08:25 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/29/2022 3:08:25 PM
Surr: DNOP	111	21-129	%Rec	1	12/29/2022 3:08:25 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/29/2022 5:40:00 PM
Surr: BFB	104	37.7-212	%Rec	1	12/29/2022 5:40:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	12/29/2022 5:40:00 PM
Toluene	ND	0.049	mg/Kg	1	12/29/2022 5:40:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	12/29/2022 5:40:00 PM
Xylenes, Total	ND	0.098	mg/Kg	1	12/29/2022 5:40:00 PM
Surr: 4-Bromofluorobenzene	115	70-130	%Rec	1	12/29/2022 5:40:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	170	60	mg/Kg	20	12/31/2022 12:05:44 AM

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

н Holding times for preparation or analysis exceeded

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

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Date Reported: 1/6/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-16 4' **Project:** Tomcat 17 Federal 1 Collection Date: 12/22/2022 9:40:00 AM Lab ID: 2212E06-007 Matrix: SOIL Received Date: 12/28/2022 6:50:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** ND 14 mg/Kg 1 12/29/2022 4:06:02 PM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 12/29/2022 4:06:02 PM Surr: DNOP 130 21-129 S %Rec 1 12/29/2022 4:06:02 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/29/2022 6:00:00 PM 5.0 mg/Kg 1 Surr: BFB 110 37.7-212 %Rec 1 12/29/2022 6:00:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: RAA Benzene ND 12/29/2022 6:00:00 PM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 12/29/2022 6:00:00 PM Ethylbenzene ND 0.050 mg/Kg 1 12/29/2022 6:00:00 PM Xylenes, Total ND mg/Kg 1 12/29/2022 6:00:00 PM 0.099 Surr: 4-Bromofluorobenzene 118 70-130 %Rec 1 12/29/2022 6:00:00 PM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride mg/Kg 12/31/2022 12:18:08 AM 410 61 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 7 of 15

Date Reported: 1/6/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-17 4' **Project:** Tomcat 17 Federal 1 Collection Date: 12/22/2022 9:45:00 AM Lab ID: 2212E06-008 Matrix: SOIL Received Date: 12/28/2022 6:50:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH **Diesel Range Organics (DRO)** 640 300 mg/Kg 20 12/29/2022 4:55:27 PM Motor Oil Range Organics (MRO) 1400 990 mg/Kg 20 12/29/2022 4:55:27 PM Surr: DNOP 0 21-129 S %Rec 20 12/29/2022 4:55:27 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: RAA Gasoline Range Organics (GRO) ND 12/29/2022 6:20:00 PM 4.9 mg/Kg 1 Surr: BFB 105 37.7-212 %Rec 1 12/29/2022 6:20:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: RAA Benzene ND 12/29/2022 6:20:00 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 12/29/2022 6:20:00 PM Ethylbenzene ND 0.049 mg/Kg 1 12/29/2022 6:20:00 PM Xylenes, Total ND 0.099 mg/Kg 1 12/29/2022 6:20:00 PM Surr: 4-Bromofluorobenzene 120 70-130 %Rec 1 12/29/2022 6:20:00 PM **EPA METHOD 300.0: ANIONS** Analyst: JMT Chloride mg/Kg 12/31/2022 12:30:32 AM 170 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits

Р Sample pH Not In Range RL Reporting Limit

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Client:		x Resources Services, Inc.	
Project:	Tome	at 17 Federal 1	
Sample ID:	MB-72391	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID:	PBS	Batch ID: 72391	RunNo: <b>93647</b>
Prep Date:	12/30/2022	Analysis Date: 12/30/202	22 SeqNo: 3380712 Units: mg/Kg
Analyte		Result PQL SPK v	value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		ND 1.5	
Sample ID:	LCS-72391	SampType: Ics	TestCode: EPA Method 300.0: Anions
Client ID:	LCSS	Batch ID: 72391	RunNo: <b>93647</b>
Prep Date:	12/30/2022	Analysis Date: 12/30/202	22 SeqNo: 3380713 Units: mg/Kg
Analyte		Result PQL SPK v	value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		15 1.5 15	15.00 0 101 90 110
Sample ID:	MB-72385	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID:	PBS	Batch ID: 72385	RunNo: 93648
Prep Date:	12/29/2022	Analysis Date: 12/30/202	22 SeqNo: 3380968 Units: mg/Kg
Analyte		Result PQL SPK v	value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		ND 1.5	
Sample ID:	LCS-72385	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID:	LCSS	Batch ID: 72385	RunNo: 93648
Prep Date:	12/29/2022	Analysis Date: 12/30/202	22 SeqNo: 3380969 Units: mg/Kg
Analyte		Result PQL SPK v	value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		15 1.5 1	15.00 0 96.7 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
- 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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2212E06

06-Jan-23

Client: Vertex I	Resources Services, Inc.		
Project: Tomcat	17 Federal 1		
Sample ID: LCS-72351	SampType: LCS	TestCode: EPA Method 8015M/D: Diese	I Range Organics
Client ID: LCSS	Batch ID: 72351	RunNo: <b>93614</b>	
Prep Date: 12/28/2022	Analysis Date: 12/29/2022	SeqNo: 3378144 Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual
Diesel Range Organics (DRO) Surr: DNOP	501550.006.55.000	0 99.9 64.4 127 131 21 129	S
Sample ID: MB-72351	SampType: MBLK	TestCode: EPA Method 8015M/D: Diese	I Range Organics
Client ID: PBS	Batch ID: 72351	RunNo: <b>93614</b>	
Prep Date: 12/28/2022	Analysis Date: 12/29/2022	SeqNo: 3378146 Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 15		
Motor Oil Range Organics (MRO) Surr: DNOP	ND 50 12 10.00	118 21 129	
Sample ID: LCS-72383	SampType: LCS	TestCode: EPA Method 8015M/D: Diese	l Range Organics
Client ID: LCSS	Batch ID: <b>72383</b>	RunNo: <b>93644</b>	
Prep Date: 12/29/2022	Analysis Date: 12/30/2022	SeqNo: 3379607 Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual
Surr: DNOP	6.2 5.000	125 21 129	
Sample ID: MB-72383	SampType: MBLK	TestCode: EPA Method 8015M/D: Diese	I Range Organics
Client ID: PBS	Batch ID: 72383	RunNo: <b>93644</b>	
Prep Date: 12/29/2022	Analysis Date: 12/30/2022	SeqNo: 3379608 Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual
Surr: DNOP	12 10.00	121 21 129	
Sample ID: LCS-72412	SampType: LCS	TestCode: EPA Method 8015M/D: Diese	I Range Organics
Client ID: LCSS	Batch ID: 72412	RunNo: <b>93700</b>	
Prep Date: 1/3/2023	Analysis Date: 1/4/2023	SeqNo: 3382185 Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	40 15 50.00	0 80.3 64.4 127	
Surr: DNOP	5.1 5.000	103 21 129	
Surr: DNOP Sample ID: MB-72412	5.1 5.000 SampType: <b>MBLK</b>	103 21 129 TestCode: EPA Method 8015M/D: Diese	I Range Organics
			I Range Organics
Sample ID: MB-72412	SampType: MBLK	TestCode: EPA Method 8015M/D: Diese	l Range Organics
Sample ID: MB-72412 Client ID: PBS	SampType: MBLK Batch ID: 72412 Analysis Date: 1/4/2023	TestCode: EPA Method 8015M/D: Diese RunNo: 93700	I Range Organics

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

- % Recovery outside of standard limits. If undiluted results may be estimated. S
- Analyte detected in the associated Method Blank В
- Е

Р Sample pH Not In Range

RL Reporting Limit

2212E06

06-Jan-23

WO#:

Above Quantitation Range/Estimated Value

- J Analyte detected below quantitation limits

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	ex Resources S cat 17 Federal		Inc.							
Sample ID: MB-72412	SampT	Гуре: <b>МЕ</b>	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: PBS	Batcl	h ID: <b>72</b> 4	112	F	RunNo: 93	3700				
Prep Date: 1/3/2023	Analysis E	Date: 1/4	4/2023	S	SeqNo: 33	82187	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Motor Oil Range Organics (MRO	) ND	50								
Surr: DNOP	10		10.00		99.7	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

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2212E06

06-Jan-23

Client: Project:	Vertex Re Tomcat 1			Inc.							
	lcs-72341	Samp	Type: LC	s	Tes	stCode: FI	PA Method	8015D: Gasoli	ine Range		
Client ID:	LCSS		h ID: 72;			RunNo: <b>9</b>		ourop. Cuson	ine rrange		
Prep Date:		Analysis [				SeqNo: 3		Units: mg/Kg	a		
Analyte		Result	PQL		SPK Ref Val	•	LowLimit	HighLimit	%RPD	RPDLimit	Qual
,	ge Organics (GRO)	26	5.0	25.00	0	104	72.3	137	701XI D		Quai
Surr: BFB		2300		1000		225	37.7	212			S
Sample ID:	mb-72341	Samp	Туре: <b>МЕ</b>	BLK	Tes	stCode: El	PA Method	8015D: Gasoli	ine Range		
Client ID:	PBS	Batc	h ID: 72:	341	F	RunNo: <b>9</b> :	3636				
Prep Date:	12/28/2022	Analysis [	Date: 12	2/29/2022	5	SeqNo: 3	378987	Units: mg/Kg	9		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	ND	5.0								
Surr: BFB		1100		1000		113	37.7	212			
Sample ID:	2212E06-001ams	Samp	Туре: МS	5	Tes	stCode: El	PA Method	8015D: Gasoli	ine Range		
Client ID:	BS22-10 4'	Batc	h ID: <b>72</b> :	341	F	RunNo: <b>9</b> :	3636				
Prep Date:	12/28/2022	Analysis [	Date: 12	2/29/2022	S	SeqNo: 3	378993	Units: mg/Kg	9		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
-	ge Organics (GRO)	27	4.8	24.22	0	110	70	130			
Surr: BFB		2300		969.0		236	37.7	212			S
Sample ID:	2212E06-001amsd	Samp	Туре: <b>МS</b>	SD	Tes	stCode: El	PA Method	8015D: Gasoli	ine Range		
Client ID:	BS22-10 4'	Batc	h ID: 72:	341	F	RunNo: <b>9</b> :	3636				
Prep Date:	12/28/2022	Analysis [	Date: 12	2/29/2022	S	SeqNo: 3	378994	Units: mg/Kg	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
-	ge Organics (GRO)	29	4.9	24.46	0	118	70	130	7.35	20	
Surr: BFB		2400		978.5		241	37.7	212	0	0	S
Sample ID:	lcs-72377	Samp	Туре: <b>LC</b>	S	Tes	stCode: El	PA Method	8015D: Gasoli	ine Range		
Client ID:	LCSS	Batc	h ID: 72:	377	F	RunNo: <b>9</b> ;	3664				
Prep Date:	12/29/2022	Analysis [	Date: 12	2/30/2022	\$	SeqNo: 3	380310	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		2300		1000		230	37.7	212			S
Sample ID:	mb-72377	Samp	Туре: МЕ	BLK	Tes	stCode: El	PA Method	8015D: Gasoli	ine Range		
		Pote	h ID: 72	377	F	RunNo: <b>9</b> :	3664				
Client ID:	PBS	Daic									
Client ID: Prep Date:	PBS 12/29/2022	Analysis [		2/30/2022	5	SeqNo: 3	380311	Units: %Rec			
					SPK Ref Val	SeqNo: <b>3</b> : %REC	380311 LowLimit	Units: <b>%Rec</b> 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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2212E06

06-Jan-23

Client: Project:		x Resources Services at 17 Federal 1	, Inc.							
Sample ID:	lcs-72382	SampType: LC	S	Tes	tCode: EF	A Method	8015D: Gasoli	ne Range		
Client ID:	LCSS	Batch ID: 72	382	F	RunNo: <b>9</b> 3	8664				
Prep Date:	12/29/2022	Analysis Date: 12	2/30/2022	S	SeqNo: 33	80334	Units: %Rec			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		2300	1000		230	37.7	212			S
Sample ID:	mb-72382	SampType: MI	BLK	Tes	tCode: EF	A Method	8015D: Gasoli	ne Range		
Client ID:	PBS	Batch ID: 72	382	F	RunNo: 93	8664				
Prep Date:	12/29/2022	Analysis Date: 12	2/30/2022	S	SeqNo: 33	80335	Units: %Rec			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1100	1000		108	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
- 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 13 of 15

2212E06

06-Jan-23

Client: Project:	Vertex Re Tomcat 17			Inc.							
Sample ID:	lcs-72341	Samp	Type: LC	S	Tes	tCode: EF	A Method	8021B: Volat	iles		
Client ID:	LCSS	Batc	h ID: 723	341	F	RunNo: 93	3636				
Prep Date:	12/28/2022	Analysis [	Date: 12	2/29/2022	S	SeqNo: 3	379011	Units: <b>mg/K</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.1	0.025	1.000	0	110	80	120			
Toluene		1.1	0.050	1.000	0	111	80	120			
Ethylbenzene		1.1	0.050	1.000	0	111	80	120			
Xylenes, Total		3.4	0.10	3.000	0	112	80	120			
Surr: 4-Brome	ofluorobenzene	1.2		1.000		124	70	130			
Sample ID:	mb-72341	Samp	Туре: <b>МВ</b>	BLK	Tes	tCode: EF	A Method	8021B: Volat	iles		
Client ID:	PBS	Batc	h ID: 723	341	F	RunNo: <b>9</b> 3	3636				
Prep Date:	12/28/2022	Analysis [	Date: 12	2/29/2022	S	SeqNo: 3	379012	Units: <b>mg/K</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	0.025								
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Brom	ofluorobenzene	1.2		1.000		124	70	130			
Sample ID:	2212E06-002ams	Samp	Туре: <b>МЅ</b>	5	Tes	tCode: EF	A Method	8021B: Volat	iles		
Client ID:	BS22-11 4'	Batc	h ID: 723	341	F	RunNo: <b>9</b> 3	3636				
Prep Date:	12/28/2022	Analysis [	Date: 12	2/29/2022	S	SeqNo: 3	379019	Units: <b>mg/K</b>	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.1	0.025	0.9921	0	109	68.8	120			
Toluene		1.1	0.050	0.9921	0	111	73.6	124			
Ethylbenzene		1.1	0.050	0.9921	0	110	72.7	129			
Xylenes, Total		3.3	0.099	2.976	0	110	75.7	126			
Surr: 4-Brome	ofluorobenzene	1.2		0.9921		118	70	130			
Sample ID:	2212E06-002amsd	Samp	Туре: <b>МЅ</b>	SD.	Tes	tCode: EF	'A Method	8021B: Volat	iles		
Client ID:	BS22-11 4'	Batc	h ID: 723	341	F	RunNo: <b>9</b> 3	3636				
Prep Date:	12/28/2022	Analysis [	Date: 12	2/29/2022	S	SeqNo: 3	379020	Units: <b>mg/K</b>	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.2	0.025	0.9891	0	123	68.8	120	11.6	20	S
Toluene		1.2	0.049	0.9891	0	125	73.6	124	11.9	20	S
Ethylbenzene		1.2	0.049	0.9891	0	125	72.7	129	12.9	20	
Xylenes, Total		3.7	0.099	2.967	0	126	75.7	126	12.8	20	
Surr: 4-Brome											

#### Qualifiers:

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

WO#: 2212E06

06-Jan-23

Client:	Vertex R	esources Se	ervices	, Inc.							
Project:	Tomcat 1	7 Federal	l								
Sample ID:	lcs-72377	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volatil	es		
Client ID:	LCSS	Batch	ID: 72	377	F	RunNo: 9	3664				
Prep Date:	12/29/2022	Analysis D	ate: 12	2/30/2022	ç	SeqNo: 3	380364	Units: %Rec			
						·					0
Analyte	mofluorobenzene	Result 1.2	PQL	SPK value 1.000	SPK Ref Val	%REC 122	LowLimit 70	HighLimit 130	%RPD	RPDLimit	Qual
Sull. 4-Biol	monuorobenzene	1.2		1.000		122	70	130			
Sample ID:	mb-72377	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8021B: Volatil	es		
Client ID:	PBS	Batch	ID: 72	377	F	RunNo: 9	3664				
Prep Date:	12/29/2022	Analysis D	ate: 12	2/30/2022	5	SeqNo: 3	380365	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
,	mofluorobenzene	1.2		1.000		122	70	130			
Sample ID:	lcs-72382	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volatil	es		
Client ID:	LCSS	Batch	ID: 72	382	F	RunNo: 9	3664				
Prep Date:	12/29/2022	Analysis D	ate: 12	2/30/2022	S	SeqNo: 3	380388	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bror	mofluorobenzene	1.2		1.000		123	70	130			
Sample ID:	mb-72382	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8021B: Volatil	es		
					_						
Client ID:	PBS	Batch	ID: 72	382	F	RunNo: 9	3664				
Client ID: Prep Date:		Batch Analysis D				RunNo: 9 SeqNo: 3		Units: %Rec			
				2/30/2022		-		Units: <b>%Rec</b> 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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06-Jan-23

2212E06

HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-39	tal Analysis Labord 4901 Hawkin Albuquerque, NM 8 975 FAX: 505-345- hallenvironmental	s NE 7109 <b>Samp</b> 4107	ole Log-In Ch	eck List
Client Name: Vertex Resources Services, Inc.	Work Order Numb	per: 2212E06		RcptNo: 1	
Received By: Isaiah Ortiz	12/28/2022 6:50:00	АМ	I-07	4	
Completed By: Isaiah Ortiz Reviewed By: 12-28-72	12/28/2022 7:33:56	AM	I_07	K	
Chain of Custody					
1. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present	
2. How was the sample delivered?		Courier			
Log In 3. Was an attempt made to cool the samples?		Yes 🔽	No 🗌	NA 🗌	
4. Were all samples received at a temperature	of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗔	
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
6. Sufficient sample volume for indicated test(s)	)?	Yes 🗹	No 🗌		
7. Are samples (except VOA and ONG) propert	y 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 🗌		
10. Were any sample containers received broke	n?	Yes	No 🗹 📋		
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	t	t of preserved pottles checked or pH: (<2 or >1:	2 unless noted)
12. Are matrices correctly identified on Chain of	Custody?	Yes 🗹	No 🗌	Adjusted?	
13. Is it clear what analyses were requested?		Yes 🗹	No 🗌		
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No 🗆	Checked by:	12/25/27
Special Handling (if applicable)					
15. Was client notified of all discrepancies with t	his order?	Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date:	J			
By Whom:	Via:	🗌 eMail 🔛 P	hone 🗌 Fax 🛛	In Person	
Regarding: Client Instructions:					
16. Additional remarks:			(		
17. <u>Cooler Information</u> <u>Cooler No</u> Temp °C Condition Set 1 3.3 Good Yes	eal Intact Seal No	Seal Date	Signed By		
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			Project Name:	~							
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			Project #:			el. 505-	Tel. 505-345-3975		505-34	Eax 505-345-4107	
Phone #:			21E-02	216-02816-27				Anal	Reque	st	
email or Fax#:		CC: Scarttar Qvertur.ca	Project Manager:	10				*0		(11	
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Released to Ima	ging: 3/13/	Released to Imaging: 3/3/2/2/2/10:441.64 will exprove a subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.	ubcontracted to other accre	idited laboratories. This serves as n	lotice of this possibility.	Any sub-ci	ontracted da	ta wilt be ctear	'ly notated	on the analytical	report.



January 17, 2023

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

RE: Tomcat 17 Federal 001

OrderNo.: 2301323

Hall Environmental Analysis Laboratory

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

Website: www.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 7 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Date Reported: 1/17/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-17 0-4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/7/2023 7:15:00 AM Lab ID: 2301323-001 Matrix: SOIL Received Date: 1/10/2023 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS **Diesel Range Organics (DRO)** ND 9.3 mg/Kg 1 1/12/2023 11:27:07 PM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/12/2023 11:27:07 PM Surr: DNOP 69-147 %Rec 1 1/12/2023 11:27:07 PM 118 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/13/2023 1:53:43 AM 5.0 mg/Kg 1 Surr: BFB 96.3 37.7-212 %Rec 1 1/13/2023 1:53:43 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/13/2023 1:53:43 AM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 1/13/2023 1:53:43 AM Ethylbenzene ND 0.050 mg/Kg 1 1/13/2023 1:53:43 AM Xylenes, Total ND mg/Kg 1 1/13/2023 1:53:43 AM 0.10 Surr: 4-Bromofluorobenzene 95.5 70-130 %Rec 1 1/13/2023 1:53:43 AM **EPA METHOD 300.0: ANIONS** Analyst: JTT mg/Kg Chloride 1/13/2023 4:41:06 PM ND 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits

Р Sample pH Not In Range RL Reporting Limit

Page 1 of 11

Date Reported: 1/17/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-18 0-4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/7/2023 7:20:00 AM Lab ID: 2301323-002 Matrix: SOIL Received Date: 1/10/2023 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: DGH Diesel Range Organics (DRO) ND 9.5 mg/Kg 1 1/12/2023 11:37:51 PM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 1/12/2023 11:37:51 PM Surr: DNOP 98.6 69-147 %Rec 1 1/12/2023 11:37:51 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/13/2023 2:16:48 AM 5.0 mg/Kg 1 Surr: BFB 97.1 37.7-212 %Rec 1 1/13/2023 2:16:48 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/13/2023 2:16:48 AM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 1/13/2023 2:16:48 AM Ethylbenzene ND 0.050 mg/Kg 1 1/13/2023 2:16:48 AM Xylenes, Total ND mg/Kg 1 1/13/2023 2:16:48 AM 0.10 Surr: 4-Bromofluorobenzene 96.6 70-130 %Rec 1 1/13/2023 2:16:48 AM **EPA METHOD 300.0: ANIONS** Analyst: JTT mg/Kg Chloride 1/13/2023 4:53:30 PM ND 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 2 of 11

Date Reported: 1/17/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-19 0-4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/7/2023 7:25:00 AM Lab ID: 2301323-003 Matrix: SOIL Received Date: 1/10/2023 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Diesel Range Organics (DRO) ND 9.7 mg/Kg 1 1/12/2023 11:48:36 PM Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 1/12/2023 11:48:36 PM Surr: DNOP 104 69-147 %Rec 1 1/12/2023 11:48:36 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/13/2023 2:39:52 AM 5.0 mg/Kg 1 Surr: BFB 97.1 37.7-212 %Rec 1 1/13/2023 2:39:52 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/13/2023 2:39:52 AM 0.025 mg/Kg 1 Toluene ND 0.050 mg/Kg 1 1/13/2023 2:39:52 AM Ethylbenzene ND 0.050 mg/Kg 1 1/13/2023 2:39:52 AM Xylenes, Total ND mg/Kg 1 1/13/2023 2:39:52 AM 0.099 Surr: 4-Bromofluorobenzene 96.6 70-130 %Rec 1 1/13/2023 2:39:52 AM **EPA METHOD 300.0: ANIONS** Analyst: JTT mg/Kg Chloride 1/13/2023 5:05:55 PM ND 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

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

Reporting Limit

Page 3 of 11

Date Reported: 1/17/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-20 0-4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/7/2023 7:30:00 AM Lab ID: 2301323-004 Matrix: SOIL Received Date: 1/10/2023 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS **Diesel Range Organics (DRO)** ND 9.2 mg/Kg 1 1/12/2023 11:59:19 PM Motor Oil Range Organics (MRO) ND 46 mg/Kg 1 1/12/2023 11:59:19 PM Surr: DNOP 108 69-147 %Rec 1 1/12/2023 11:59:19 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/13/2023 3:25:56 AM 4.9 mg/Kg 1 Surr: BFB 95.6 37.7-212 %Rec 1 1/13/2023 3:25:56 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/13/2023 3:25:56 AM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/13/2023 3:25:56 AM Ethylbenzene ND 0.049 mg/Kg 1 1/13/2023 3:25:56 AM Xylenes, Total ND 0.099 mg/Kg 1 1/13/2023 3:25:56 AM Surr: 4-Bromofluorobenzene 94.9 70-130 %Rec 1 1/13/2023 3:25:56 AM **EPA METHOD 300.0: ANIONS** Analyst: JTT mg/Kg Chloride 1/13/2023 5:18:19 PM 120 61 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level Sample Diluted Due to Matrix

D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceed.

H Holding times for preparation or analysis exceeded

NDNot Detected at the Reporting LimitPQLPractical 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: 1/17/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: WS22-21 0-4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/7/2023 7:35:00 AM Lab ID: 2301323-005 Matrix: SOIL Received Date: 1/10/2023 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Diesel Range Organics (DRO) ND 10 mg/Kg 1 1/13/2023 12:10:01 AM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/13/2023 12:10:01 AM Surr: DNOP 120 69-147 %Rec 1 1/13/2023 12:10:01 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/13/2023 3:48:54 AM 4.9 mg/Kg 1 Surr: BFB 94.1 37.7-212 %Rec 1 1/13/2023 3:48:54 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/13/2023 3:48:54 AM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/13/2023 3:48:54 AM Ethylbenzene ND 0.049 mg/Kg 1 1/13/2023 3:48:54 AM Xylenes, Total ND 0.098 mg/Kg 1 1/13/2023 3:48:54 AM Surr: 4-Bromofluorobenzene 93.7 70-130 %Rec 1 1/13/2023 3:48:54 AM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride mg/Kg 1/13/2023 5:30:44 PM 72 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits

Р Sample pH Not In Range Reporting Limit

RL

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Date Reported: 1/17/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BS22-14 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/7/2023 7:45:00 AM Lab ID: 2301323-006 Matrix: SOIL Received Date: 1/10/2023 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS **Diesel Range Organics (DRO)** ND 10 mg/Kg 1 1/13/2023 12:20:41 AM Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 1/13/2023 12:20:41 AM Surr: DNOP 105 69-147 %Rec 1 1/13/2023 12:20:41 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/13/2023 4:11:56 AM 4.9 mg/Kg 1 Surr: BFB 94.9 37.7-212 %Rec 1 1/13/2023 4:11:56 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/13/2023 4:11:56 AM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/13/2023 4:11:56 AM Ethylbenzene ND 0.049 mg/Kg 1 1/13/2023 4:11:56 AM Xylenes, Total ND 0.099 mg/Kg 1 1/13/2023 4:11:56 AM Surr: 4-Bromofluorobenzene 94.8 70-130 %Rec 1 1/13/2023 4:11:56 AM **EPA METHOD 300.0: ANIONS** Analyst: JTT mg/Kg Chloride 1/13/2023 5:43:08 PM 1800 61 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

- Analyte detected in the associated Method Blank в
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit Page 6 of 11

Date Reported: 1/17/2023

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Vertex Resources Services, Inc. Client Sample ID: BS22-15 4' **Project:** Tomcat 17 Federal 001 Collection Date: 1/7/2023 7:50:00 AM Lab ID: 2301323-007 Matrix: SOIL Received Date: 1/10/2023 7:30:00 AM Result **RL** Qual Units DF **Date Analyzed** Analyses Analyst: DGH EPA METHOD 8015M/D: DIESEL RANGE ORGANICS **Diesel Range Organics (DRO)** 9.8 8.9 mg/Kg 1 1/13/2023 12:31:21 AM Motor Oil Range Organics (MRO) ND 44 mg/Kg 1 1/13/2023 12:31:21 AM Surr: DNOP 114 69-147 %Rec 1 1/13/2023 12:31:21 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 1/13/2023 4:34:56 AM 4.9 mg/Kg 1 Surr: BFB 93.9 37.7-212 %Rec 1 1/13/2023 4:34:56 AM **EPA METHOD 8021B: VOLATILES** Analyst: JJP Benzene ND 1/13/2023 4:34:56 AM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 1/13/2023 4:34:56 AM Ethylbenzene ND 0.049 mg/Kg 1 1/13/2023 4:34:56 AM Xylenes, Total ND 0.097 mg/Kg 1 1/13/2023 4:34:56 AM Surr: 4-Bromofluorobenzene 93.3 70-130 %Rec 1 1/13/2023 4:34:56 AM **EPA METHOD 300.0: ANIONS** Analyst: JTT Chloride mg/Kg 1/13/2023 5:55:33 PM 1400 60 20

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix

D Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

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

Analyte detected in the associated Method Blank в

- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

RL Reporting Limit Page 7 of 11

Client: Project:		ex Resources Se cat 17 Federal (	,	Inc.							
Sample ID:	MB-72612	SampT	ype: ME	BLK	Tes	stCode: EP	A Method	300.0: Anions	5		
Client ID:	PBS	Batch	ID: 726	612	F	RunNo: <b>93</b>	954				
Prep Date:	1/13/2023	Analysis Da	ate: 1/	13/2023	Ś	SeqNo: 33	892167	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID:	LCS-72612	SampT	ype: LC	S	Tes	stCode: EF	PA Method	300.0: Anions	;		
Client ID:	LCSS	Batch	ID: 726	612	F	RunNo: <b>9</b> 3	954				
Prep Date:	1/13/2023	Analysis Da	ate: 1/	13/2023	5	SeqNo: 33	92168	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	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 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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2301323

17-Jan-23

WO#:

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:		Resources Se 17 Federal (	· · · · ·	Inc.							
Sample ID:	LCS-72585	SampTy	pe: LC	S	Tes	tCode: EF	PA Method	8015M/D: Die:	sel Range	Organics	
Client ID:	LCSS	Batch	ID: 72	585	F	RunNo: <b>9</b> :	3911				
Prep Date:	1/12/2023	Analysis Da	ate: 1/	12/2023	S	SeqNo: 3	390353	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	)	5.6		5.000		111	69	147			
Sample ID:	MB-72585	SampTy	ype: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Die:	sel Range	Organics	
Client ID:	PBS	Batch	ID: 72	585	F	RunNo: <b>9</b> :	3911				
Prep Date:	1/12/2023	Analysis Da	ate: 1/	12/2023	S	SeqNo: 3	390355	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	)	11		10.00		106	69	147			
Sample ID:	LCS-72584	SampTy	pe: LC	S	Tes	tCode: EF	PA Method	8015M/D: Die:	sel Range	Organics	
Sample ID: Client ID:	LCS-72584 LCSS		ype: LC			tCode: Ef		8015M/D: Die:	sel Range	Organics	
			ID: 72	584	F		3911	8015M/D: Dies Units: mg/K	-	Organics	
Client ID:	LCSS	Batch	ID: 72	584 12/2023	F	RunNo: <b>9</b> :	3911		-	<b>Organics</b> RPDLimit	Qual
Client ID: Prep Date: Analyte	LCSS	Batch Analysis Da	ID: 72: ate: 1/	584 12/2023	F	RunNo: <b>9:</b> SeqNo: <b>3:</b>	3911 391719	Units: <b>mg/K</b> g	g	-	Qual
Client ID: Prep Date: Analyte	LCSS 1/11/2023 Organics (DRO)	Batch Analysis Da Result	ID: <b>72</b> ate: <b>1/</b> PQL	584 12/2023 SPK value	F S SPK Ref Val	RunNo: <b>9:</b> SeqNo: <b>3:</b> %REC	3911 391719 LowLimit	Units: <b>mg/K</b> g HighLimit	g	-	Qual
Client ID: Prep Date: Analyte Diesel Range Surr: DNOP	LCSS 1/11/2023 Organics (DRO)	Batch Analysis Da Result 41	ID: <b>72</b> ate: <b>1</b> / PQL 10	584 12/2023 SPK value 50.00 5.000	F S SPK Ref Val 0	RunNo: 9: SeqNo: 3: %REC 82.0 106	<b>3911</b> <b>391719</b> LowLimit 61.9 69	Units: <b>mg/K</b> HighLimit 130	g %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range Surr: DNOP	LCSS 1/11/2023 Organics (DRO)	Batch Analysis Da Result 41 5.3 SampTy	ID: <b>72</b> ate: <b>1</b> / PQL 10	584 12/2023 SPK value 50.00 5.000 BLK	F SPK Ref Val 0 Tes	RunNo: 9: SeqNo: 3: %REC 82.0 106	<b>3911</b> <b>391719</b> LowLimit 61.9 69 PA Method	Units: <b>mg/K</b> g HighLimit 130 147	g %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range Surr: DNOP Sample ID:	LCSS 1/11/2023 Organics (DRO) MB-72584	Batch Analysis Da Result 41 5.3 SampTy	ID: 72! ate: 1/ PQL 10 ype: ME ID: 72!	584 12/2023 SPK value 50.00 5.000 SLK 584	F SPK Ref Val 0 Tes F	RunNo: 9: SeqNo: 3: %REC 82.0 106 tCode: EF	3911 391719 LowLimit 61.9 69 PA Method 3911	Units: <b>mg/K</b> g HighLimit 130 147	g %RPD sel Range	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range Surr: DNOP Sample ID: Client ID:	LCSS 1/11/2023 Organics (DRO) MB-72584 PBS	Batch Analysis Da Result 41 5.3 SampTy Batch	ID: 72! ate: 1/ PQL 10 ype: ME ID: 72!	584 12/2023 SPK value 50.00 5.000 3LK 584 12/2023	F SPK Ref Val 0 Tes F	RunNo: 9: SeqNo: 3: %REC 82.0 106 tCode: EF	3911 391719 LowLimit 61.9 69 PA Method 3911	Units: mg/Kg HighLimit 130 147 8015M/D: Dies	g %RPD sel Range	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range Surr: DNOP Sample ID: Client ID: Prep Date: Analyte	LCSS 1/11/2023 Organics (DRO) MB-72584 PBS	Batch Analysis Da Result 41 5.3 SampTy Batch Analysis Da	ID: 72 ate: 1/ PQL 10 ype: ME ID: 72 ate: 1/	584 12/2023 SPK value 50.00 5.000 3LK 584 12/2023	F SPK Ref Val 0 Tes F	RunNo: 9: SeqNo: 3: %REC 82.0 106 tCode: Ef RunNo: 9: SeqNo: 3:	3911 391719 LowLimit 61.9 69 PA Method 3911 391724	Units: mg/Kg HighLimit 130 147 8015M/D: Dies Units: mg/Kg	g %RPD sel Range g	RPDLimit Organics	
Client ID: Prep Date: Analyte Diesel Range Surr: DNOP Sample ID: Client ID: Prep Date: Analyte Diesel Range	LCSS 1/11/2023 Organics (DRO) MB-72584 PBS 1/11/2023 Organics (DRO) ge Organics (MRO)	Batch Analysis Da Result 41 5.3 SampTy Batch Analysis Da Result	ID: 72 ate: 1/ PQL 10 ype: ME ID: 72 ate: 1/ PQL	584 12/2023 SPK value 50.00 5.000 3LK 584 12/2023	F SPK Ref Val 0 Tes F	RunNo: 9: SeqNo: 3: %REC 82.0 106 tCode: Ef RunNo: 9: SeqNo: 3:	3911 391719 LowLimit 61.9 69 PA Method 3911 391724	Units: mg/Kg HighLimit 130 147 8015M/D: Dies Units: mg/Kg	g %RPD sel Range g	RPDLimit Organics	

Qualifiers:

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- 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

2301323

17-Jan-23

WO#:

	lesources Se 17 Federal ()		Inc.							
Sample ID: Ics-72577	SampTy	/pe: LC	S	Tes	tCode: EF	A Method	8015D: Gasol	ine Range		
Client ID: LCSS	Batch	ID: 72	577	F	RunNo: <b>93</b>	928				
Prep Date: 1/11/2023	Analysis Da	ate: 1/	12/2023	S	SeqNo: 33	91322	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.6	72.3	137			
Surr: BFB	2000		1000		195	37.7	212			
Sample ID: mb-72577	SampTy	/pe: ME	BLK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch	ID: 72	577	F	RunNo: 93	928				
Prep Date: 1/11/2023	Analysis Da	ate: 1/	12/2023	S	SeqNo: 33	91323	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		102	37.7	212			

**Qualifiers:** 

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

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WO#: 2301323 17-Jan-23

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

	x Resources S at 17 Federal	,	Inc.							
Sample ID: LCS-72577	SampT	Type: LC	s	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batc	h ID: 725	577	F	RunNo: 93928					
Prep Date: 1/11/2023	Analysis [	Date: <b>1/</b> 1	12/2023	S	SeqNo: 33	891519	Units: mg/K	g		
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	72577 SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batcl	h ID: 725	577	RunNo: <b>93928</b>						
Prep Date: 1/11/2023	Analysis [	Date: <b>1/</b> 1	12/2023	S	SeqNo: 3391520 Units:			m <b>g/Kg</b>		
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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated. S
- Analyte detected in the associated Method Blank В
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
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Page 11 of 11

WO#: 2301323 17-Jan-23

ANALY	HALL Hall Environmental ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345 Website: w						kins NE 1 87109 15-4107	Sar	nple Log-In Check List		
	Vertex Reso Services, In		Work	Order Num	nber: 230	1323			RcptNo:	1	
Received By:	Juan Roja	S	1/10/202	23 7:30:00	АМ		Gua	nay	not		
Completed By:	Sean Livir フル ー ル	-	1/10/20:	23 8:31:11	АМ		5	S-L	not		
Chain of Cust	tody								_		
1. Is Chain of Cu	stody compl	ete?			Yes		N	o 🗌	Not Present		
2. How was the s	sample delive	ered?			<u>Cou</u>	rier					
Log In 3. Was an attem	pt made to c	ool the sample	es?		Yes		N	•			
4. Were all samp	les received	at a temperat	ure of >0° C t	o 6.0°C	Yes		N	• 🗆	na 🗆		
5. Sample(s) in p	roper contai	ner(s)?			Yes		N	•			
6. Sufficient samp	ole volume fo	or indicated te	st(s)?		Yes		No	• 🗆			
7. Are samples (e	except VOA a	and ONG) pro	perly preserve	d?	Yes	$\checkmark$	No	<b>b</b>			
8. Was preservati	ive added to	bottles?			Yes		No		na 🗆		
9. Received at lea	ast 1 vial with	headspace <	:1/4" for AQ V	OA?	Yes		No	<b>b</b> 🗌	NA 🔽		
10. Were any sam	ple containe	rs received br	oken?		Yes		N	•	# of preserved		
11. Does paperwor (Note discrepa					Yes		No			>12 unless noted)	
12. Are matrices co	orrectly ident	ified on Chain	of Custody?		Yes	$\checkmark$	No	<b>b</b>	Adjusted?		
13. Is it clear what			1		Yes	$\checkmark$	No			400	
14. Were all holdin (If no, notify cu	•				Yes		No		Checked by:	kra 1.10.23	
Special Handli	ng (if app	licable)									
15. Was client not	ified of all dis	screpancies w	ith this order?		Yes		N	•	NA 🗹	3	
Person N	Notified:			Date	-						
By Whor	m: 🗍		and a state of a state	Via:	🗌 eM	ail 🗌	Phone	] Fax	In Person		
Regardir	ng: 🛛								and a second		
L	structions.										
16. Additional rem	narks:										
17. <u>Cooler Inform</u>	E.								3		
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal D	ate	Signed	t By	3		
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Page 300 of 309

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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.

•

Received	SPh 34	872024	Received CMSR13672CUSYCUSYCUSYCOC	Turn-Around Time:	Time:				_				0	C	Page 301	Page 301 of 309
Client:	1	Vertex		X Standard	Rush.	5 Daw				Ż	Ľ,	SIS		AB	ANALYSIS LABORATORY	ORY
		direct bi	(direct bill to Devon)	Project Name:	-					MMM	www.hallenvironmental.com	Iviron	mente	al.con		
Mailing Address:	ldress:			Tomcat 17 Federal #001	ederal #001			4901	4901 Hawkins NE	ins N	1	nbnqı	erdne	, NM	Albuquerque, NM 87109	
				Project #:				Tel.	505-345-3975	45-39	75	Fax	505-345-4107	345-4	07	
Phone #:				22E-02816-27	7						Ana	lysis	Analysis Request	lest		
email or Fax#:	ax#:			Project Manager	ager:		(1	(0			۲O	<b>b</b> -		(ţu		
QA/QC Package:	skage:			Kent Stallings	Ø		805		501	SM	S "C	- 14	_	əsq		
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Accreditation:	Ë	⊐ Az Co	mpliance	Sampler:	L.Pullman		IME			728	°ON	7	(	əsə.		
		Other		On Ice:	D Yes	O No	. 1			JO			ίΨC	<u>ч</u> д)		
🗆 EDD (Type)	ype)			# of Coolers: \	1	warty	38.			018			DΛ-	ա		
				Cooler Temp		0-6= 0°C	ΓM			y 83			imə	oìilo		
Date Ti	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2301323	N X I T A	08:H9T	9 1808 M) 803	d eHA9	CI' E' E	() 0928	S) 0728	D lstoT		
01/07/23	7:15	Soil	WS22-17 0-4'	1, 4oz jar		100	×	×								
01/07/23 7	7:20	Soil	WS22-18 0-4'	1, 4oz jar		<b>7</b> 02	×	×			×					
01/07/23 7	7:25	Soil	WS22-19 0-4'	1, 4oz jar		100	×	×			×					
01/07/23	7:30	Soil	WS22-20 0-4'	1, 4oz jar		5 CO	×	×			×					
01/07/23	7:35	Soil	WS22-21 0-4'	1, 4oz jar		500	×	×			×					
01/07/23 7	7:45	Soil	BS22-14 4'	1, 4oz jar		200 00	×	×			×					
01/07/23 7	7:50	Soil	BS22-15 4'	1, 4oz jar		すう	×	X			×					
										+						
								+			+			-		
	Ê	Relinquished by:	U:hq be	Received by:	Via:		Rem	Remarks:	1				:			
2		NAPT	Talling/	VUVV	.5	1/9/22 700		ot bill stallir	Direct bill to Devon, Dale Woodall co-kstallings@vertex ca for Final Report	Von, l	Jale V	Vood:	al Re	tion		
Pate: Time:		Relinquished by	ed by:	Received by:	Via:	Date Date		200			5					
	Pessary Sa	amples subr	f neressaru samilas submittad in Hall Environmental mau ha suffernitadad in other		COUNTER I	This serves as matrice of this	diagon	lity Any		hartad	lline of other			4	moder least	

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

District III

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

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

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

QUESTIONS

Action 322623

QUESTIO	NS
Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	322623
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Prerequisites	
Incident ID (n#)	nSAP0219636264
Incident Name	NSAP0219636264 TOMCAT 17 FEDERAL #001 @ 30-025-34690
Incident Type	Oil Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-34690] TOMCAT 17 FEDERAL #001

#### Location of Release Source

Please answer all the questions in this group.	
Site Name	Tomcat 17 Federal #001
Date Release Discovered	07/15/2002
Surface Owner	Federal

#### Incident Details

Plassa	answar	all the	questions in	this aroun

riease answer an the questions in this group.	
Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

#### Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission Cause: Corrosion | Production Tank | Crude Oil | Released: 110 BBL | Recovered: 34 BBL | Crude Oil Released (bbls) Details Lost: 76 BBL Produced Water Released (bbls) Details Not answered. Is the concentration of chloride in the produced water >10,000 mg/l Not answered. Condensate Released (bbls) Details Not answered. Natural Gas Vented (Mcf) Details Not answered. Natural Gas Flared (Mcf) Details Not answered. Other Released Details Not answered. Are there additional details for the questions above (i.e. any answer containing Not answered. Other, Specify, Unknown, and/or Fire, or any negative lost amounts)

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

District III

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

District IV

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

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

QUESTIONS, Page 2

Action 322623

QUESTIONS (continued)	
Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	322623
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial	Response
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The responsible party must undertake the following actions immediately unless they could create a s	safety hazard that would result in injury.
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.
	iation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of ted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of evaluation in the follow-up C-141 submission.
to report and/or file certain release notifications and perform corrective actions for releat the OCD does not relieve the operator of liability should their operations have failed to a	knowledge and understand that pursuant to OCD rules and regulations all operators are required ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface t does not relieve the operator of responsibility for compliance with any other federal, state, or
I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dvn.com Date: 03/12/2024

District I

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

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

District III

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

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

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

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QUESTIONS, Page 3

Action 322623

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	322623
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

OUESTIONS (continued)

#### QUESTIONS

Site Characterization

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release ar	nd the following surface areas:
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Greater than 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

#### Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date. Requesting a remediation plan approval with this submission Yes Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC. Have the lateral and vertical extents of contamination been fully delineated Yes Was this release entirely contained within a lined containment area No Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.) Chloride (EPA 300.0 or SM4500 CI B) 5400 TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M) 16300 GRO+DRO (EPA SW-846 Method 8015M) 8300 BTEX (EPA SW-846 Method 8021B or 8260B) 0 (EPA SW-846 Method 8021B or 8260B) Benzene 0 Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation. On what estimated date will the remediation commence 07/16/2020 On what date will (or did) the final sampling or liner inspection occur 01/17/2023 On what date will (or was) the remediation complete(d) 01/07/2023 What is the estimated surface area (in square feet) that will be reclaimed 2600 What is the estimated volume (in cubic yards) that will be reclaimed 339 What is the estimated surface area (in square feet) that will be remediated 2600 What is the estimated volume (in cubic yards) that will be remediated 339 These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed. The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to

significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required

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

District III

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

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

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

QUESTIONS, Page 4

Action 322623

QUESTIONS (continued)	
Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	322623
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Remediation Plan (continued)

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants: (Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	R360 Artesia LLC LANDFARM [fEEM0112340644]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed ef which includes the anticipated timelines for beginning and completing the remediation.	forts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC,
to report and/or file certain release notifications and perform corrective actions for relea the OCD does not relieve the operator of liability should their operations have failed to a	knowledge and understand that pursuant to OCD rules and regulations all operators are required ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface t does not relieve the operator of responsibility for compliance with any other federal, state, or
I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional

Date: 03/12/2024 The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

Email: Dale.Woodall@dvn.com

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

District III

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

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

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

QUESTIONS, Page 5

Action 322623

QUESTIONS (continued)	
Operator: DEVON ENERGY PRODUCTION COMPANY, LP	OGRID: 6137
333 West Sheridan Ave. Oklahoma City, OK 73102	Action Number: 322623
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of	the following items must be confirmed as part of any request for deferral of remediation.
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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

District III

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

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

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

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QUESTIONS, Page 6

Action 322623

QUESTIONS (continued)	
Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	322623
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	322619
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	01/07/2023
What was the (estimated) number of samples that were to be gathered	7
What was the sampling surface area in square feet	1

**Remediation Closure Request** 

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.			
Requesting a remediation closure approval with this submission	Yes		
Have the lateral and vertical extents of contamination been fully delineated	Yes		
Was this release entirely contained within a lined containment area	No		
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes		
What was the total surface area (in square feet) remediated	2600		
What was the total volume (cubic yards) remediated	339		
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes		
What was the total surface area (in square feet) reclaimed	0		
What was the total volume (in cubic yards) reclaimed	0		
Summarize any additional remediation activities not included by answers (above)	see report		
	closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of		
to report and/or file certain release notifications and perform corrective actions for releas the OCD does not relieve the operator of liability should their operations have failed to a water, human health or the environment. In addition, OCD acceptance of a C-141 repor	knowledge and understand that pursuant to OCD rules and regulations all operators are required uses which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface t does not relieve the operator of responsibility for compliance with any other federal, state, or ially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed ng notification to the OCD when reclamation and re-vegetation are complete.		

I hereby agree and sign off to the above statement	Name: Dale Woodall
	Title: EHS Professional
	Email: Dale.Woodall@dvn.com
	Date: 03/12/2024

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

District III

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

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

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

QUESTIONS, Page 7

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Action 322623

QUESTIONS (continued)		
Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137	
	Action Number: 322623	
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	
QUESTIONS		
Reclamation Report		

Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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

District III

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

District IV

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

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

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CONDITIONS

Action 322623

CONDITIONS

Operator:	OGRID:
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333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	322623
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
crystal.walker	Closure Approved. Final remediation and reclamation shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations.	3/13/2024
crystal.walker	Operator failed to provide proper Sampling Notification pursuant to 19.15.29.12.D.(1).(a) NMAC. Failure to provide proper sampling notice is a compliance issue and OCD may pursue compliance actions pursuant to 19.15.5 NMAC. Operator shall ensure future compliance with 19.15.29.12.D. (1).(a) NMAC	3/13/2024
crystal.walker	The sampling notification 322619 for samples scheduled to be completed on 01/07/2023 was received. Emails for sampling conducted on 12/12/2022 was enclosed in the report as well. However, a sampling notification was sent for sampling to be done on 12/22/2022 and 12/23/2023, but no samples were taken. Samples were also taken on 12/6/2022 and 1/16/2023 and no sampling notification was received for these confirmation sampling dates. "Failure to notify the OCD of sampling events including any changes in date/time per the requirement 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted."	3/13/2024