

Volume calculator

There was no volume calculator prepared when the spill occurred.





June 8, 2023

Vertex Project #: 21E-02816-36

**Spill Closure Report:** SDE 31 Federal #009  
Unit J, Section 31, Township 23 South, Range 32 East  
API: 30-025-32868  
County: Lea  
Incident Reports: nPAC0534054352, nPAC0534054473 and nPRS0531129171

**Prepared For:** **Devon Energy Production Company, LP**  
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, LP retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment for releases of produced water caused by injection line leaks at SDE 31 Federal #009, API 30-025-32868, Incidents nPAC0534054352, nPAC0534054473, and nPRS0531129171 (hereafter referred to as "SDE"). This letter provides a description of the Spill Assessment and includes a request for Spill Closure. The spill area is located at N 32.2591248, W -103.7115784.

## Background

The site is a saltwater disposal well located approximately 21 miles east of Malaga New Mexico (Google Inc., 2022). The legal location for the site is Unit J, Section 31, Township 23 South and Range 32 East in Lea County, New Mexico. The spill area is located on Bureau of Land Management property. An aerial photograph and site schematic are included in Attachment 1.

*The Geological Map of New Mexico* (New Mexico Bureau of Geology and Mineral Resources, 2022) indicates the site's surface geology is comprised primarily of Qep - eolian and piedmont deposits. The Natural Resources Conservation Service *Web Soil Survey* characterizes the predominant soil texture on the site Pyote loamy fine sand. It tends to be well drained with negligible runoff and low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2022).

The surrounding landscape is associated with plains at elevations of 3,000 to 3,900 feet above sea level. The climate is semi-arid, with annual precipitation ranging between 10 to 12 inches. Historically, the plant community was dominated by grasses with scattered shrubs. Black grama is dominant with a mixture of mesquite and shinnery oak shrubs. Overgrazing and extended drought can reduce grass cover (United States Department of Agriculture, Natural Resources Conservation Service, 2022).

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There is no surface water located at SDE. 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 an intermittent stream located approximately 5.5 miles northwest of the site (United States Fish and Wildlife Service, 2022). There are no continuous flowing 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

The releases occurred on October 18 and 31, 2005, due to corrosion-induced leaks in the saltwater injection line. The spills were reported on October 18 and 31, 2005, and involved the releases of approximately 20 barrels (bbl) and an unknown volume of produced water on the pad site. Free fluid was not removed during initial spill clean-up. The New Mexico Oil Conservation Division (NMOCD) C-141 Reports: nPAC0534054352, nPAC0534054473, nPRS0531129171 are included in Attachment 2. New initial C-141 notifications for nPAC0534054352, nPAC0534054473, and nPRS0531129171 were created because the originals were lost prior to upload. The daily field reports (DFR) 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 380 feet below ground surface (bgs) and 5,040 feet from the site (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2022).

The available depth to groundwater reference exceeded the 0.5 mile radius limit, and a closer confirmation reference was required. Vision Resources, Inc. obtained a permit from New Mexico Office of the State Engineer approving collection of lithological data for a test borehole for depth to groundwater approximately 0.3 miles northwest of the site. On March 7, 2023, the borehole was drilled to a depth of 55 feet, was left open as per requirements on the WR - 07 Application for Permit to Drill a Well With No Water Right, and an interface probe lowered into the bottom of the borehole on March 13, 2023 to investigate if groundwater may have accumulated during the 72 hour waiting period; no water was present at that time. The borehole was plugged on March 14, 2023, as per requirements on the WR - 08, Well Plugging Plan of Operations. The well information and location are included with documentation used in Closure Criteria Determination research in Attachment 4.



Devon Energy Production Company, LP  
SDE 31 Federal #009

2023 Spill Assessment and Closure  
June 2023

Closure Criteria Worksheet			
Site Name: SDE 31 Federal #009			
Spill Coordinates:		X: 32.2591248	Y: -103.7115784
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	>55	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	29,176	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	32,778	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	19,359	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, <b>or</b>	5,036	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	4,877	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	Pyote loamy fine sand	
12	Ecological Classification	Loamy Sand	
13	Geology	Eolian and piedmont deposits	
NMAC 19.15.29.12 E (Table 1) Closure Criteria		51-100'	<50' 51-100' >100'

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

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Devon Energy Production Company, LP  
SDE 31 Federal #009

2023 Spill Assessment and Closure  
June 2023

Table 1. Closure Criteria for Soils to Remediation & Reclamation Standards		
	Constituent	Limit
0-4 feet bgs (19.15.29.13)	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
DTGW 51-100 feet (19.15.29.12)	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

bgs – Below ground surface

DTGW – Depth to groundwater

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

BTEX - Benzene, toluene, ethylbenzene, and xylenes

## Remedial Actions Taken

Initial site inspection and site characterization activities at SDE were completed by Vertex between February 24 and November 7, 2022, including horizontal and vertical delineation. The impacted area was initially determined to be approximately 192 feet long and 152 feet wide; the total affected area was determined to be 19,473 square feet. A DFR associated with the delineation is included in Attachment 3.

Remediation efforts began on November 10, 2022, and were completed on November 22, 2022. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on soil from surfaces samples as excavation progressed and consisted of analysis using a photo ionization detector (volatile hydrocarbons), Dextsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and an Electroconductivity meter (chloride). Field screening results were used to identify areas requiring further remediation from those areas showing concentrations below determined closure criteria levels. Soils were removed to a depth of 4 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Field screening results and DFRs are included in Attachments 5 and 3, respectively.

Notification that confirmatory samples were being collected was provided to the NMOCD on November 29, 2022 and is included in Attachment 6. Confirmatory 5-point composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of 143 samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total Petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 3 (Attachment 5) and the laboratory data reports are included in Attachment 7. All confirmatory samples collected and analyzed were below closure criteria for the site.

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Devon Energy Production Company, LP  
SDE 31 Federal #009

2023 Spill Assessment and Closure  
June 2023

## Closure Request

Vertex recommends no additional remediation action to address the releases at SDE 31 Federal #009. Laboratory analyses of the final confirmatory samples showed constituent of concern concentration levels below NMOCD closure criteria for areas where depth to groundwater is 51-100 feet bgs as shown in Table 1. There are no anticipated risks to human, ecological or hydrological receptors associated with the release sites.

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.

Vertex requests that these incidents (nPAC0534054352, nPAC0534054473 and nPRS0531129171) 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 October 18 and 31, 2005 releases at SDE 31 Federal #009.

The release area was fully delineated, remediated, and backfilled with local soils by March 7, 2023. Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release locations between 51 and 100 feet to groundwater. Based on these findings, Devon requests that this release be closed.

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

*Lakin Pullman*

Lakin Pullman, B.Sc.  
SENIOR TECHNICAL EXPERT, REPORTING

June 8, 2023

Date

*Kent Stallings P.G.*

Kent Stallings, P.G.  
PROJECT MANAGER, REPORT REVIEW

June 12, 2023

Date

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Devon Energy Production Company, LP  
SDE 31 Federal #009

2023 Spill Assessment and Closure  
June 2023

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## Attachments

- Attachment 1. Site Schematic
- Attachment 2. NMOCD C-141 Report(s)
- Attachment 3. Daily Field Reports with Pictures
- 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 COCs



Devon Energy Production Company, LP  
SDE 31 Federal #009

2023 Spill Assessment and Closure  
June 2023

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## References

- Google Inc. (2022). *Google Earth Pro* (Version 7.3.4) [Software]. Retrieved from <http://www.google.com/earth> on November 4, 2022.
- 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. (2022). *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>.



Devon Energy Production Company, LP  
SDE 31 Federal #009

2023 Spill Assessment and Closure  
June 2023

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## Limitations

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

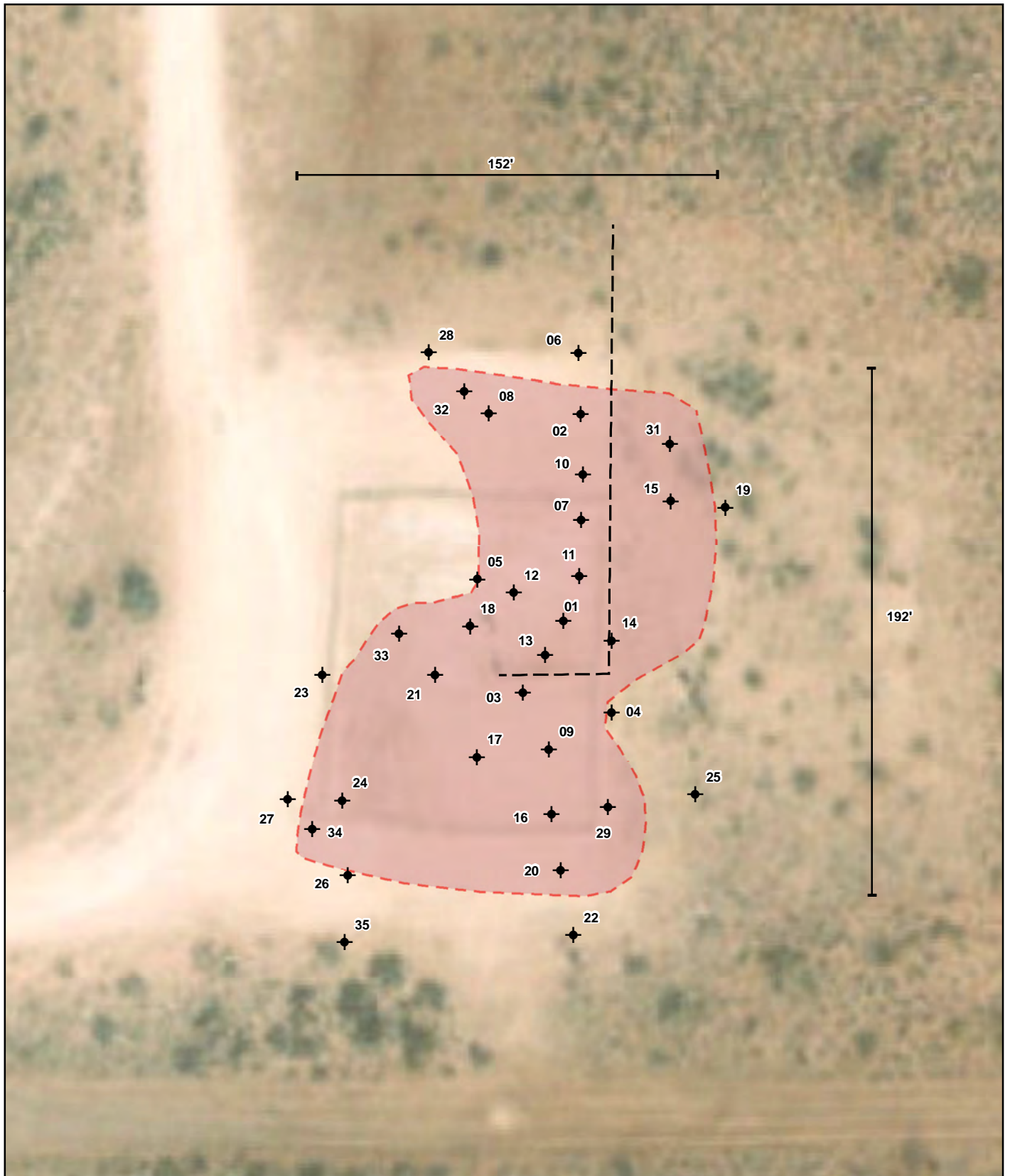
The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement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



## **ATTACHMENT 1**



Document Path: \\vtx-sf01.corp.internal\shared\ps04 - Geomatics\1-Projects\ US PROJECTS\Devon Energy Corporation\2021\21E-02816\036 - SDE 31 Federal 9\Figure 1 Characterization Sample Locations (SDE 31 Fed 9).mxd



- ◆ Borehole (Prefixed with "BH22-")
- - Aboveground Flowline
- Release Extent (19,473 sq. ft. )



0 10 20 40 ft.  
NAD 1983 UTM Zone 13N  
Date: Nov 16/22

Map Center:  
Lat: 32.259212,  
Long:-103.711598



Characterization Schematic  
SDE 31 Federal #009

FIGURE:  
1

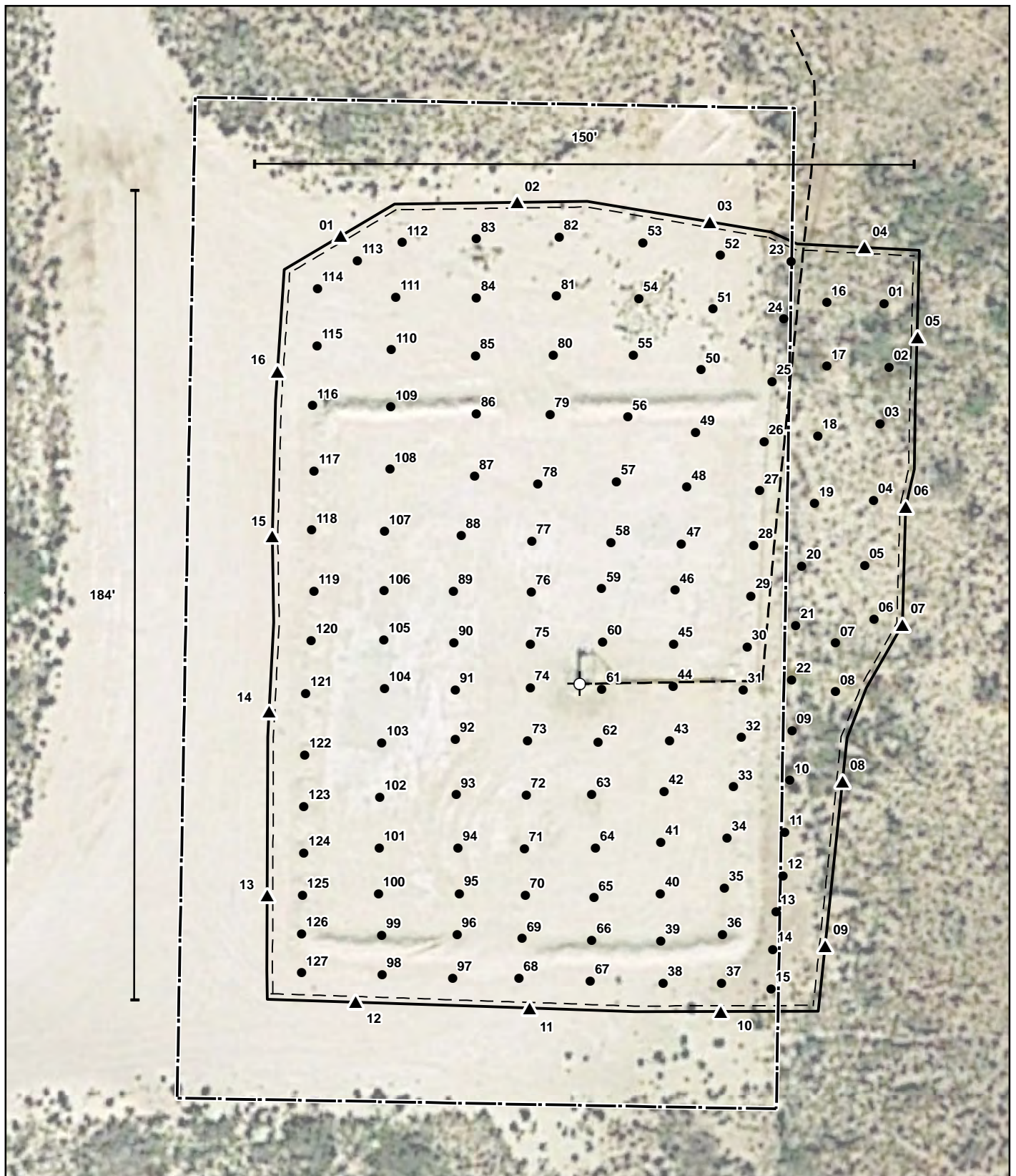


Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Imagery from ESRI, 2020. Sample locations from GPS, Vertex Professional Services Ltd., 2022.

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- Base Sample (Prefixed by "BS22-")
- ▲ Wall Sample (Prefixed by "WS22-")
- ⊙ Wellhead
- Steel injection line
- ⬡ Approximate Lease Boundary
- ⬢ Excavation to 4' (~24,676 sq. ft.)



0 5 10 20 ft.  
NAD 1983 UTM Zone 13N  
Date: Dec 21/22

Map Center:  
Lat: 32.259190,  
Long: -103.711662



### Confirmatory Sample Locations SDE 31 Federal #009

FIGURE:

2



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

Note: Background imagery from Google Earth, 2022. Features from GPS. Vertex Professional Services Ltd., 2022.

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## **ATTACHMENT 2**



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

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

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

Incident ID	nPAC0534054352, nPAC0534054473
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party <b>Harvard Petroleum Company, LLC</b>	OGRID <b>10155</b>
Contact Name <b>Jeff Harvard</b>	Contact Telephone <b>575-208-7135</b>
Contact email <b>jharvard@hpcnm.com</b>	Incident # (assigned by OCD) <b>nPAC0534054352, nPAC0534054473</b>
Contact mailing address <b>P.O. Box 936 Roswell, NM 88202</b>	

Location of Release Source

Latitude 32.2591248 Longitude -103.7115784  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name <b>SDE 31 Federal #009</b>	Site Type <b>Oil Well</b>
Date Release Discovered <b>October 18, 2005</b>	API# (if applicable) <b>30-025-32868</b>

Unit Letter	Section	Township	Range	County
J	31	23S	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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <b>20</b>	Volume Recovered (bbls) <b>0</b>
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Release is historical and on file with NMOCD but original C-141 is not on file (possibly never uploaded). Injection line developed a leak due to corrosion. Notation on NMOCD incident web page is as follows:  
“C-141: "Injection line leak (corrosion) Shut in well. Lease road to well.”



Incident ID	nPAC0534054352, nPAC0534054473
District RP	
Facility ID	30-025-32868
Application ID	

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

## Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:  Historic release outside of containment.	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Jeff Harvard</u>	Title: <u>President and Manager</u>
Signature: _____	Date: _____
email: <u>jharvard@hpcnm.com</u>	Telephone: <u>575-208-7135</u>
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____



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

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

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

Incident ID	nPRS0531129171
District RP	
Facility ID	30-025-32868
Application ID	

Release Notification

Responsible Party

Responsible Party <b>Harvard Petroleum Company, LLC</b>	OGRID <b>10155</b>
Contact Name <b>Jeff Harvard</b>	Contact Telephone <b>575-208-7135</b>
Contact email <b>jharvard@hpcnm.com</b>	Incident # (assigned by OCD) <b>nPRS0531129171</b>
Contact mailing address <b>P.O. Box 936 Roswell, NM 88202</b>	

Location of Release Source

Latitude 32.2591248 Longitude -103.7115784  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name <b>SDE 31 Federal #009</b>	Site Type <b>Oil Well</b>
Date Release Discovered <b>October 31, 2005</b>	API# (if applicable) <b>30-025-32868</b>

Unit Letter	Section	Township	Range	County
J	31	23S	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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <b>Unknown</b>	Volume Recovered (bbls) <b>Unknown</b>
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Release is historical and on file with NMOCD but original C-141 is not on file (possibly never uploaded). Injection line developed a leak due to corrosion. Notation on NMOCD incident web page is as follows: "C-141: "Injection line leak (corrosion) Shut well in."



Incident ID	nPRS0531129171
District RP	
Facility ID	30-025-32868
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  Volume not recorded. Assume more than 25 bbl and therefore a Major release.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?  Unknown.	

## Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:  Historic release outside of containment.	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Jeff Harvard</u>	Title: <u>President and Manager</u>
Signature: _____	Date: _____
email: <u>jharvard@hpcnm.com</u>	Telephone: <u>575-208-7135</u>
<b><u>OCD Only</u></b>  Received by: _____ Date: _____	



Incident ID	nPAC0534054352, nPAC0534054473, nPRS0531129171
District RP	
Facility ID	30-025-32868
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;55</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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



State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	nPAC0534054352, nPAC0534054473, nPRS0531129171
District RP	
Facility ID	30-025-32868
Application ID	

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

Printed Name: Jeff Harvard Title: President and Manager

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

email: jharvard@hpcnm.com Telephone: 575-208-7135

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_



Incident ID	nPAC0534054352, nPAC0534054473, nPRS0531129171
District RP	
Facility ID	30-025-32868
Application ID	

## Remediation Plan

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

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

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

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

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

Printed Name: Jeff Harvard Title: President and Manager  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
email: jharvard@hpcnm.com Telephone: 575-208-7135

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



Incident ID	nPAC0534054352, nPAC0534054473, nPRS0531129171
District RP	
Facility ID	30-025-32868
Application ID	

## Closure

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

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

- ☒ 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: 575-208-7135

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_



## **ATTACHMENT 3**





## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	9/4/2022
Site Location Name:	SDE 31 Federal #009	Report Run Date:	9/4/2022 11:49 PM
Client Contact Name:	Wes Matthews	API #:	
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

### Summary of Times

Arrived at Site	9/4/2022 2:19 PM
Departed Site	9/4/2022 4:41 PM

### Field Notes

- 16:08** Completed safety paperwork at previous site. On site to complete horizontal delineation.
- 16:22** Mapped sample locations to complete horizontal delineation and acquire more information about area inside former containment berm.
- 16:26** Swept sample point locations with magnetic locator prior to ground disturbance. Boreholes advanced with hand tools.
- 16:29** Advanced BH22-22 off south edge of pad and south of BH22-20. Field screening results for TPH and chloride below NMOCD strictest criteria.
- 16:30** Advanced BH22-23 immediately west of former containment berm on west edge of pad. Field screening results for TPH and chloride below NMOCD strictest criteria.
- 16:31** Advanced BH22-24 in southwest corner of former containment area. Field screening results for chloride exceeded NMOCD strictest criteria.
- 16:32** Horizontal delineation tentatively complete pending laboratory results.
- 16:33** May need additional sample points between BH22-23 and BH22-21 to refine edge of contamination.
- 16:34** Will require machinery to complete vertical delineation.



## Daily Site Visit Report



### Next Steps & Recommendations

- 1 Completed vertical delineation with mechanical advantage.



## Daily Site Visit Report



## Site Photos

Viewing Direction: North



South of pad facing north. Advanced BH22-22 south of BH22-20 for horizontal delineation.

Viewing Direction: East



West edge of pad facing east. Advanced BH22-23 west of berm for horizontal delineation.

Viewing Direction: Northeast



Southeast corner of berm facing northeast. Advanced BH22-24 inside southwest corner of former containment area.

Viewing Direction: East



West edge of pad facing east.



## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Lakin Pullman

**Signature:**

A handwritten signature in black ink, appearing to be 'LP', written over a horizontal line. Below the line, the word 'Signature' is faintly visible.





## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/2/2022
Site Location Name:	SDE 31 Federal CTB	Report Run Date:	12/3/2022 12:09 AM
Client Contact Name:	Wes Matthews	API #:	
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

### Summary of Times

Arrived at Site	12/2/2022 6:22 AM
Departed Site	12/2/2022 3:22 PM

### Field Notes

- 6:51** Completed JSA and safety meeting. On site to collect confirmation samples from excavation surfaces.
- 15:21** Excavation and corresponding side walls are 4 feet in depth. Excavation base area is approximately 25000 square feet.
- 6:55** Swept excavation surfaces with magnetic locator prior to ground disturbance.
- 15:13** Collected 16 wall excavation samples and 127 base excavation samples.

### Next Steps & Recommendations

- 1 Submit samples to laboratory for analyses.





# Daily Site Visit Report

## Site Photos

**Viewing Direction: South**



Northwest corner of pad facing south.

**Viewing Direction: Southwest**



East of pad east of wellhead facing southwest.

**Viewing Direction: North**



East of southeast corner of pad facing north.

**Viewing Direction: Northwest**



East of southeast corner of pad facing northwest.





## Daily Site Visit Report

Viewing Direction: West



East of southeast corner of pad facing west.

Viewing Direction: East



Southwest corner of pad facing east.

Viewing Direction: East



Southwest corner of pad facing east.

Viewing Direction: Northeast



Southwest corner of pad facing northeast.





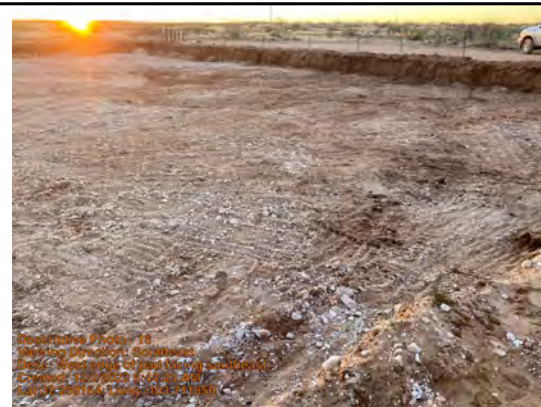
## Daily Site Visit Report

**Viewing Direction: North**



Southwest corner of pad facing north.

**Viewing Direction: Southeast**



West edge of pad facing southeast.

**Viewing Direction: East**



West edge of pad facing east.

**Viewing Direction: Southeast**



Northwest corner of pad facing southeast.





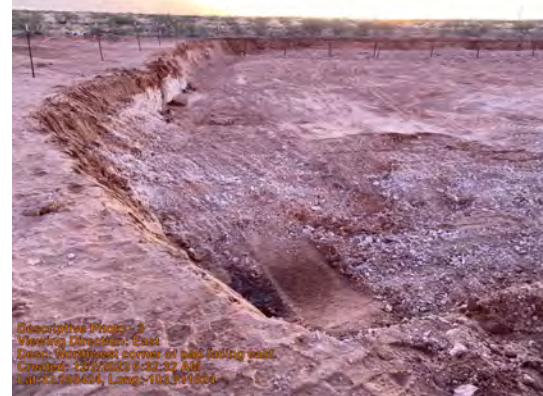
## Daily Site Visit Report

**Viewing Direction: Northeast**



West edge of pad facing northeast.

**Viewing Direction: East**



Northwest corner of pad facing east.

**Viewing Direction: South**



East of northeast corner of pad facing south along injection line.

**Viewing Direction: West**



East of northeast corner of pad facing west.





## Daily Site Visit Report

**Viewing Direction: Southwest**



East of northeast corner of pad facing southwest.

**Viewing Direction: South**



East of northeast corner of pad facing south.

**Viewing Direction: Northwest**



East of pad east of wellhead facing northwest.

**Viewing Direction: West**



East of pad east of wellhead facing west.



## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Lakin Pullman

**Signature:**

A handwritten signature in black ink, appearing to be 'LP', written over a horizontal line.

Signature





## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/7/2023
Site Location Name:	SDE 31 Federal 4	Report Run Date:	3/8/2023 1:49 AM
Client Contact Name:	Wes Matthews	API #:	30-025-32716
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

### Summary of Times

Arrived at Site	3/7/2023 4:30 PM
Departed Site	3/7/2023 5:35 PM

### Field Notes

**16:40** Arrived on site and discussed site plan. Began drilling borehole for well at 16:35.

**17:11** Drilling borehole and well installation completed 17:10.

**17:22** Well reading at 17:15 with Solinst model 122. Pipe height above ground is 2 ft 7 inches. Dry well reading at 60 ft and 7 inches. (58 ft depth of well).

**17:30** Collected coordinates of actual well location (32.2628063, -103.7162248).  
Well is 85ft directly east of pump jack, northeast outside of pad.

### Next Steps & Recommendations

1



# Daily Site Visit Report



## Site Photos

Viewing Direction: East



Drilling rig and well site

Viewing Direction: North



Actual well location

Viewing Direction: West



Well location in relation to site references



## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Stephanie McCartyM

**Signature:**

A handwritten signature in black ink, appearing to read 'Steph McCarty', written over a thin horizontal line. The word 'Signature' is faintly visible below the line.





## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/13/2023
Site Location Name:	SDE 31 Federal 4	Report Run Date:	4/17/2023 3:44 PM
Client Contact Name:	Wes Matthews	API #:	30-025-32716
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

### Summary of Times

Arrived at Site	3/13/2023 3:00 PM
Departed Site	3/13/2023 4:06 PM

### Field Notes

- 15:21** Completed JSA on arrival. On site to test depth of water in exploratory well.
- 15:29** Top of well casing was 2 feet 7.5 inches above ground surface.
- 15:38** Extended Solinst Model 122 Interface Meter to base of exploratory well at 15:35 on March 13, 2023.
- 15:44** Once the interface probe was at the bottom of the well, the tape read 61 feet at the top of the well casing. The well was approximately 58 feet 4.5 inches deep.
- 15:46** There was no indication of water throughout the depth of the well. Confirmed dry well.
- 15:59** Approximate coordinates of well: 32.2627890, -103.7162235. Exploratory well is approximately 111 feet east of oil wellhead.

### Next Steps & Recommendations

1



## Daily Site Visit Report



## Site Photos

Viewing Direction: East



East edge of well pad facing east. Exploratory well marked with orange cone.

Viewing Direction: West



East of well pad facing west. Exploratory well marked with orange cone.

Viewing Direction: West



East of well pad facing west. Exploratory well.

Viewing Direction: West



East of well pad facing west.





## Daily Site Visit Report

Viewing Direction: West



East of well pad facing west.

Viewing Direction: North



South of pump jack facing north.



## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Lakin Pullman

**Signature:**

A handwritten signature in black ink, appearing to be 'LP', written over a horizontal line. Below the line, the word 'Signature' is printed in a small font.



## **ATTACHMENT 4**






Closure Criteria Worksheet				
Site Name: SDE 31 Federal #009				
Spill Coordinates:		X: 32.2591248	Y: -103.7115784	
Site Specific Conditions		Value	Unit	Reference
1	Depth to Groundwater	>55	feet	1
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	29,176	feet	2
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	32,778	feet	3
4	Within 300 feet from an occupied residence, school, hospital, institution or church	19,359	feet	4
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, <b>or</b>	5,036	feet	5
	ii) Within 1000 feet of any fresh water well or spring		feet	5
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)	6
7	Within 300 feet of a wetland	4,877	feet	7
8	Within the area overlying a subsurface mine	No	(Y/N)	8
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low	9
10	Within a 100-year Floodplain	No	year	10
11	Soil Type	Pyote loamy fine sand		11
12	Ecological Classification	Loamy Sand		12
13	Geology	Eolian and piedmont deposits		13
NMAC 19.15.29.12 E (Table 1) Closure Criteria		51-100'	<50' 51-100' >100'	



## SDE 31 Federal #009

Depth to groundwater determination  
Distance to well: 1,591 feet

### Legend

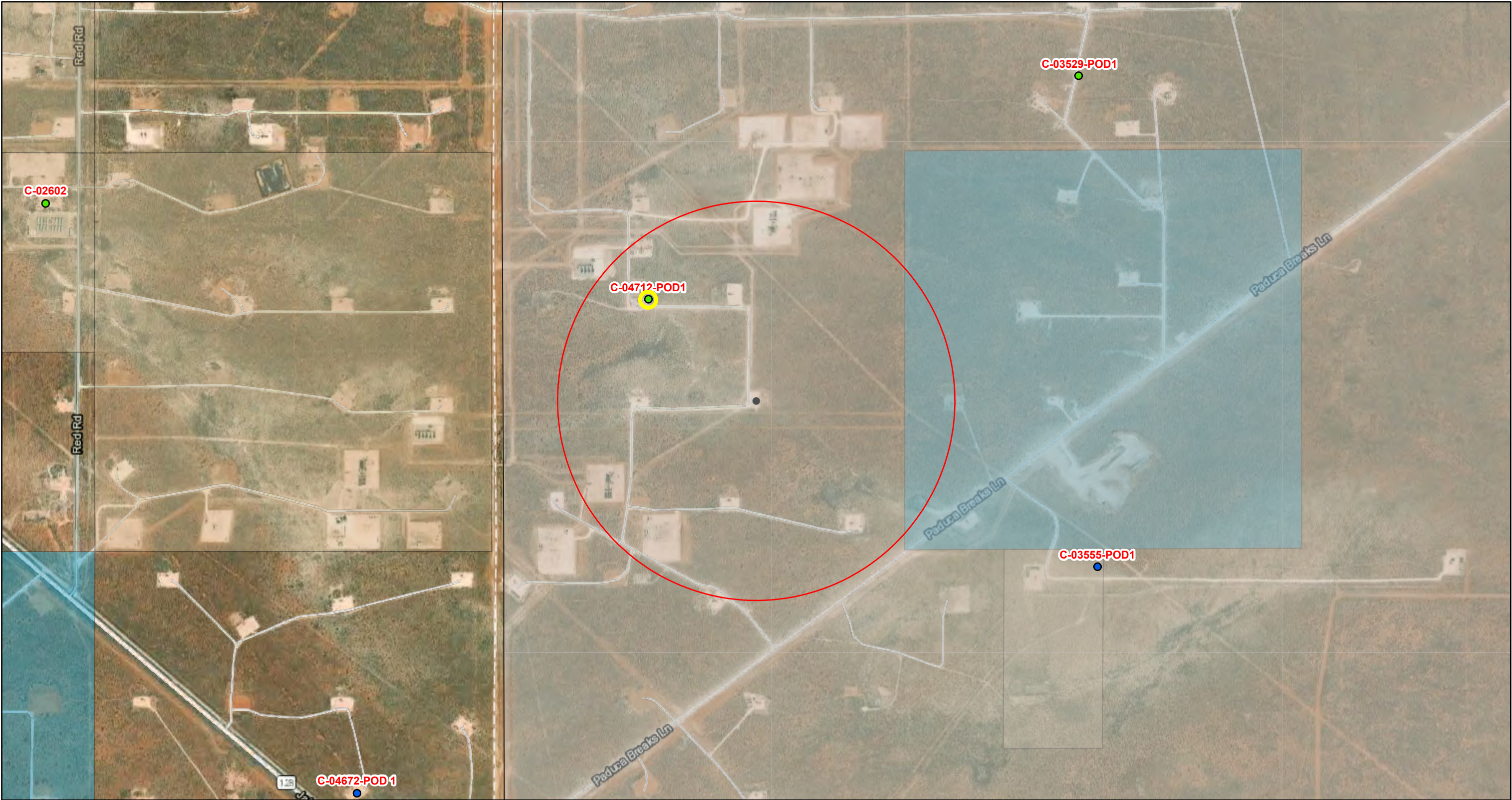
-  0.5 mile radius
-  C 04712
-  SDE 31 Federal #009

C 04712

SDE 31 Federal #009



OSE POD 0.5 mile



4/18/2023, 5:45:12 PM

GIS WATERS PODs

● Active

● Pending

□ OSE District Boundary

Water Right Regulations

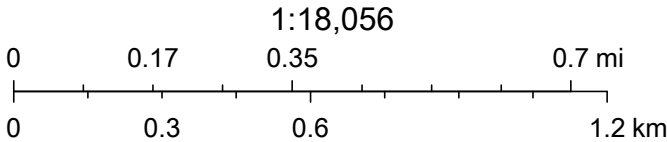
□ Closure Area

New Mexico State Trust Lands

□ Subsurface Estate

□ Both Estates

□ SiteBoundaries



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





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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

Average Depth to Water:	377 feet
Minimum Depth:	160 feet
Maximum Depth:	713 feet

**UTMNAD83 Radius Search (in meters):**

**Radius:** 5000

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

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


WATER COLUMN/ AVERAGE DEPTH TO WATER





# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)						(quarters are smallest to largest)		(NAD83 UTM in meters)		
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y			
NA	C 04712 POD1	1	4	1	31	23S	32E	620917	3570289			
x												
Driller License:		1833		Driller Company:			VISION RESOURCES, INC					
Driller Name:		JASON MALEY										
Drill Start Date:		03/09/2023			Drill Finish Date:			03/09/2023		Plug Date:		03/14/2023
Log File Date:		04/04/2023			PCW Rcv Date:			Source:				
Pump Type:					Pipe Discharge Size:			Estimated Yield:				
Casing Size:					Depth Well:			55 feet		Depth Water:		
x												

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 8:52 AM

POINT OF DIVERSION SUMMARY





New Mexico Office of the State Engineer

Water Right Summary



WR File Number:

C 04712

Subbasin:

CUB

Cross Reference:

-

Primary Purpose:

MON

MONITORING WELL

Primary Status:

PMT

PERMIT

Total Acres:

Subfile:

-

Header:

-

Total Diversion:

0

Cause/Case:

-

Owner:

VERTEX RESOURCES

User:

HARVARD PETROLEUM COMPANY LLC

Contact:

JUSTIN WARREN

Documents on File

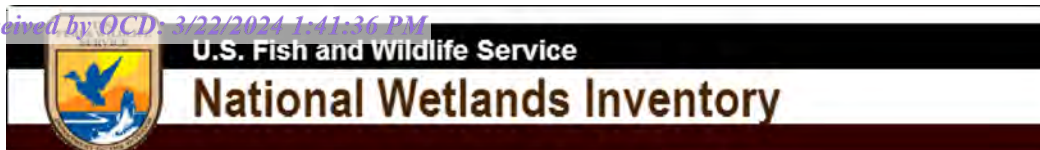
Trn #	Doc	File/Act	Status			Transaction Desc.	From/		Acres	Diversion	Consumptive
			1	2			To				
<a href="#">743189</a>	<a href="#">EXPL</a>	<a href="#">2023-02-21</a>	PMT	APR		C 04712 POD1-6	T		0	0	

Current Points of Diversion

POD Number	Well Tag	Source	Q							(NAD83 UTM in meters)		Other Location Desc
			64	Q16	Q4	Sec	Tws	Rng		X	Y	
<a href="#">C 04712 POD1</a>	NA		1	4	1	31	23S	32E		620917	3570289	SDE
<a href="#">C 04712 POD2</a>	NA		4	4	4	17	23S	32E		623332	3574331	TOMCAT17
<a href="#">C 04712 POD3</a>	NA		4	1	2	24	23S	31E		619651	3573877	TODD24
<a href="#">C 04712 POD4</a>	NA		1	4	3	14	23S	31E		617535	3574316	TODD14
<a href="#">C 04712 POD5</a>	NA		4	4	3	09	23S	31E		614393	3575754	NPG9
<a href="#">C 04712 POD6</a>	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.





Intermittent, 29,176 feet



November 5, 2022

**Wetlands**

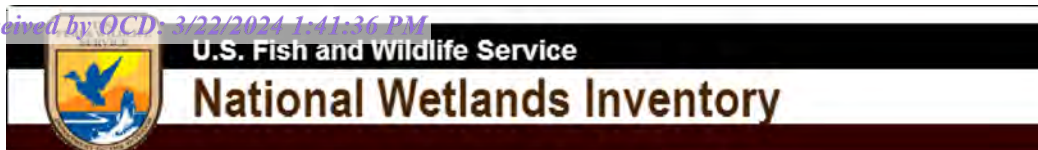
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

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





SDE 31 Fed 9 Lake 32,778 ft



October 12, 2022

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

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



# SDE 31 Fed 9 Residence

19,359 ft

32.2591248,-103.7115784



Residence



Google Earth



1 mi





# New Mexico Office of the State Engineer

## Water Right Summary


[get image list](#)

WR File Number: C 03555

Subbasin: C

Cross Reference: -

Primary Purpose: STK 72-12-1 LIVESTOCK WATERING

Primary Status: PMT PERMIT

Total Acres:

Subfile: -

Header: -

Total Diversion: 3

Cause/Case: -

Owner: NGL WATER SOLUTIONS PERMIAN

Contact: R CHARLES WILKIN

### Documents on File

	Trn #	Doc	File/Act	Status			Transaction Desc.	From/ To	Acres	Diversion	Consumptive
				1	2						
	<a href="#">get images</a>	<a href="#">677211</a>	<a href="#">UWL 2020-08-06</a>	UWL	ACC		C 03555	T		0	
	<a href="#">get images</a>	<a href="#">633172</a>	<a href="#">COWNF 2018-09-17</a>	CHG	PRC		C 03555	T		0	
	<a href="#">get images</a>	<a href="#">534311</a>	<a href="#">72121 2013-09-19</a>	PMT	LOG		C 03555	T		3	
	<a href="#">get images</a>	<a href="#">506470</a>	<a href="#">72121 2012-06-29</a>	EXP	EXP		C 03555	T		3	

### Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q				64Q16Q4Sec Tw		Rng	X	Y	Other Location Desc
<a href="#">C 03555 POD1</a>	NA	Shallow	2	2	1	05	24S	32E		622748	3569233	

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

10/12/22 4:30 PM

WATER RIGHT SUMMARY





*New Mexico Office of the State Engineer*

(with Ownership Information)

(NAD83 UTM in met

1

**UTMNAD83 Radius Search (in meters):**

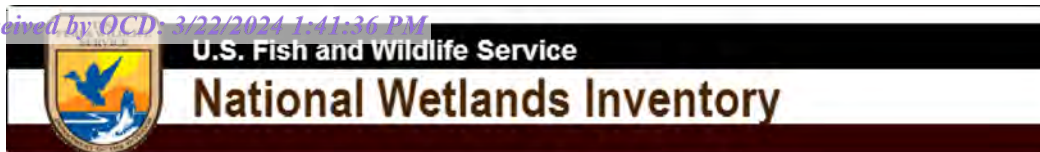
**Radius:** 1610

**Sorted by:** Distance

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

ACTIVE &amp; INACTIVE POINTS OF DI





SDE 31 Fed 9 Wetland 4877ft



October 12, 2022

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

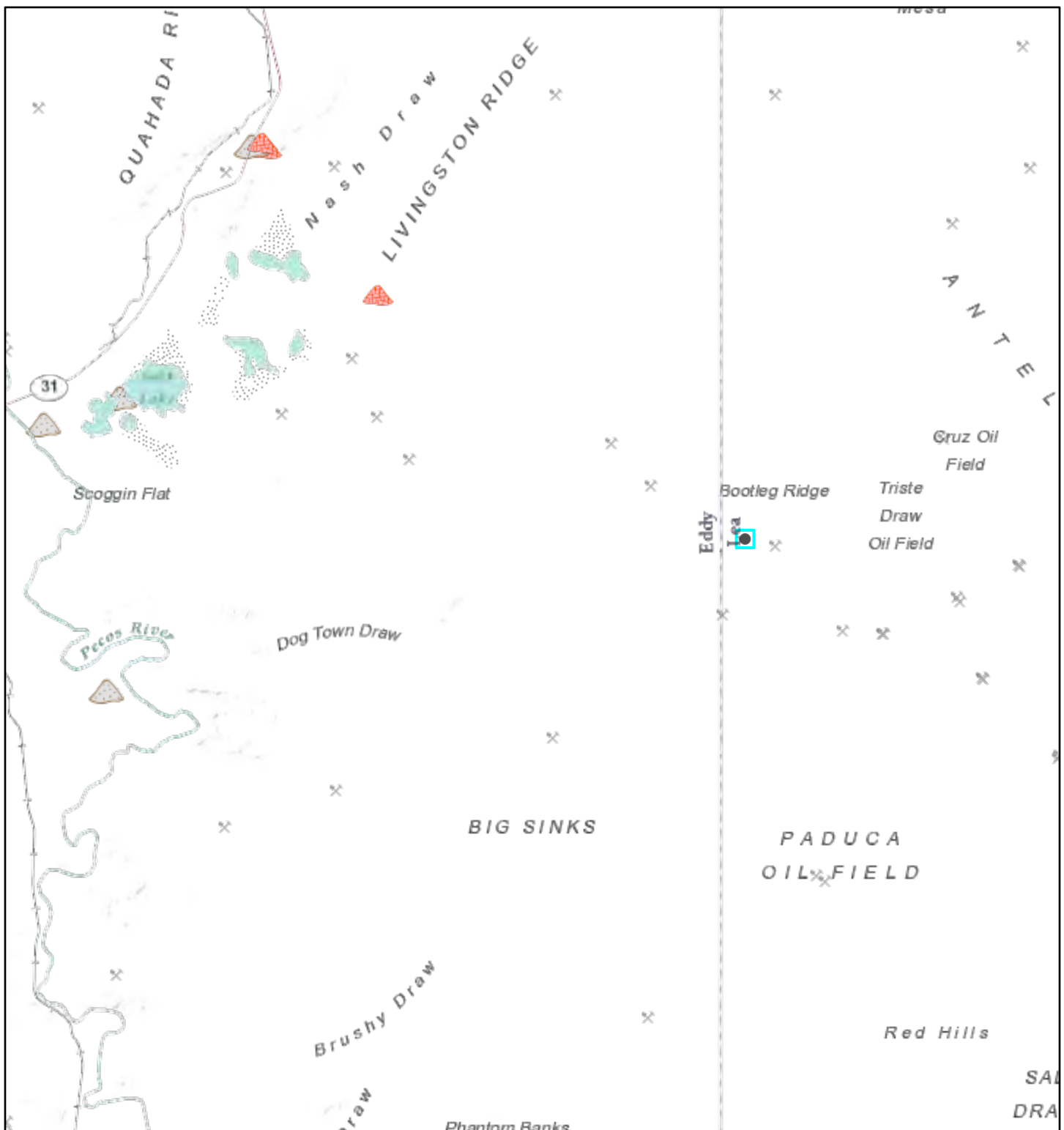
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

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



## Active Mines in New Mexico



10/12/2022, 4:54:55 PM

1:288,895

Registered Mines



Aggregate, Stone etc.



Aggregate, Stone etc.



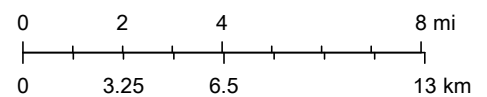
Potash



Aggregate, Stone etc.

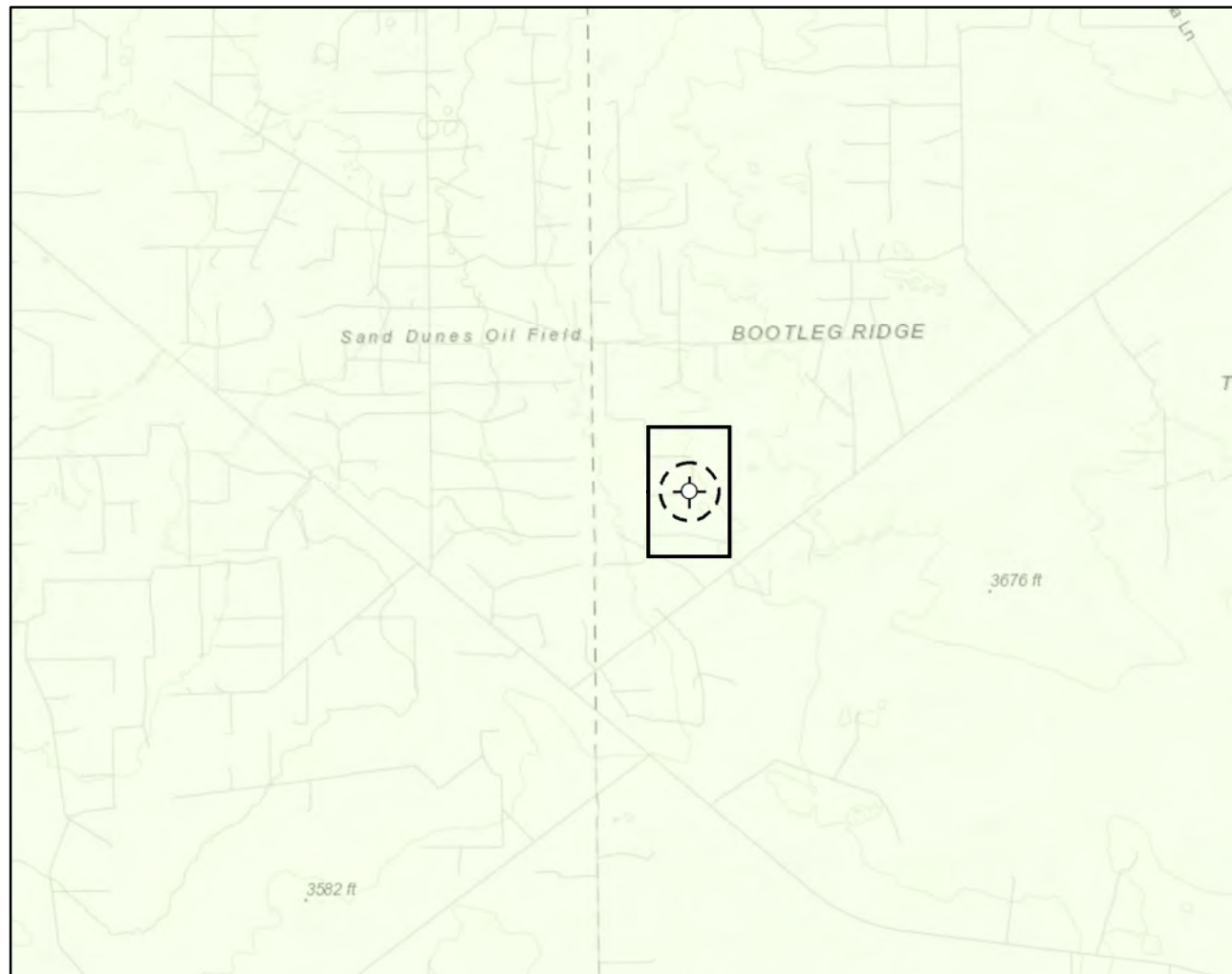


Salt



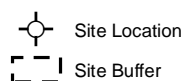
Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS





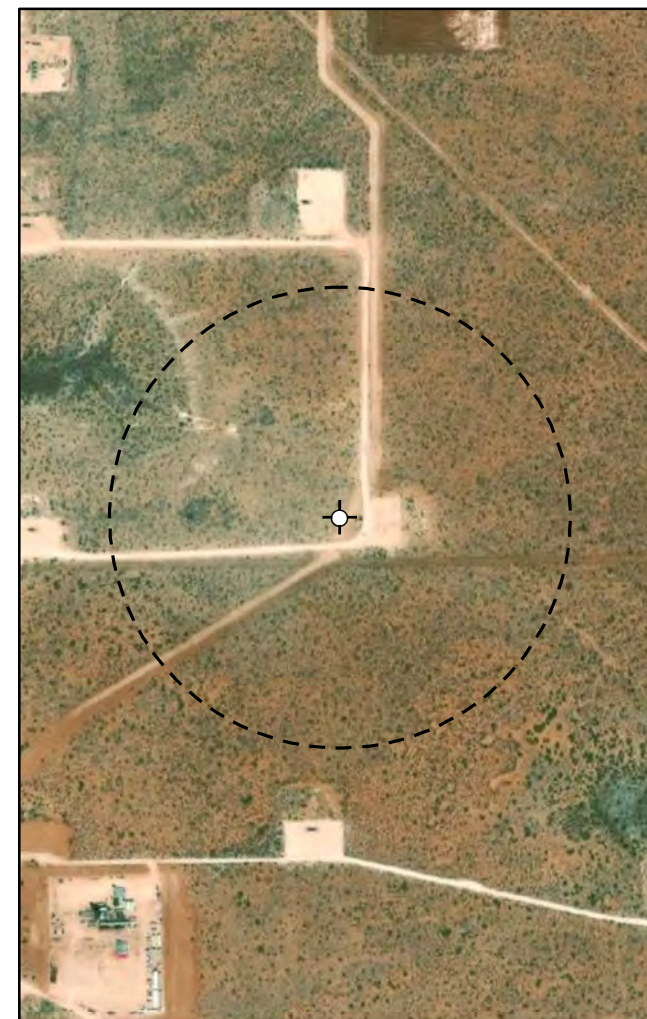
## Karst Potential

- Critical
- High
- Medium
- Low



## Overview Map

0 0.25 0.5 1 mi



## Detail Map

0 150 300 600 ft.



Map Center:  
Lat/Long: 32.259125, -103.719000

NAD 1983 UTM Zone 13N  
Date: Oct 16/22



**Karst Potential**  
**SDE 31 Fed 9**

FIGURE:

**X**



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

Note: Inset Map, ESRI 2021; Overview Map: ESRI World Topographic. Karst potential data sourced from Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

**VERSATILITY. EXPERTISE.**



# National Flood Hazard Layer FIRMette



103°43'W 32°15'48"N



## Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/12/2022 at 7:05 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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





United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

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

# Custom Soil Resource Report for **Lea County, New Mexico**



October 12, 2022



# Preface

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

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

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

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

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

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

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# Contents

---

**Preface**..... 2

**How Soil Surveys Are Made**.....5

**Soil Map**..... 8

    Soil Map (SDE 31 Fed 9 Soil Map).....9

    Legend.....10

    Map Unit Legend (SDE 31 Fed 9 Soil Map)..... 11

    Map Unit Descriptions (SDE 31 Fed 9 Soil Map).....11

        Lea County, New Mexico..... 13

            BE—Berino-Cacique loamy fine sands association..... 13

            KD—Kermit-Palomas fine sands, 0 to 12 percent slopes..... 15

            MF—Maljamar and Palomas fine sands, 0 to 3 percent slopes..... 17

            PT—Pyote loamy fine sand..... 19

            PU—Pyote and Maljamar fine sands..... 20

            SE—Simona fine sandy loam, 0 to 3 percent slopes..... 22

**References**.....24



## How Soil Surveys Are Made

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

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

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

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

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



## Custom Soil Resource Report

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

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

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

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

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

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

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



## Custom Soil Resource Report

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

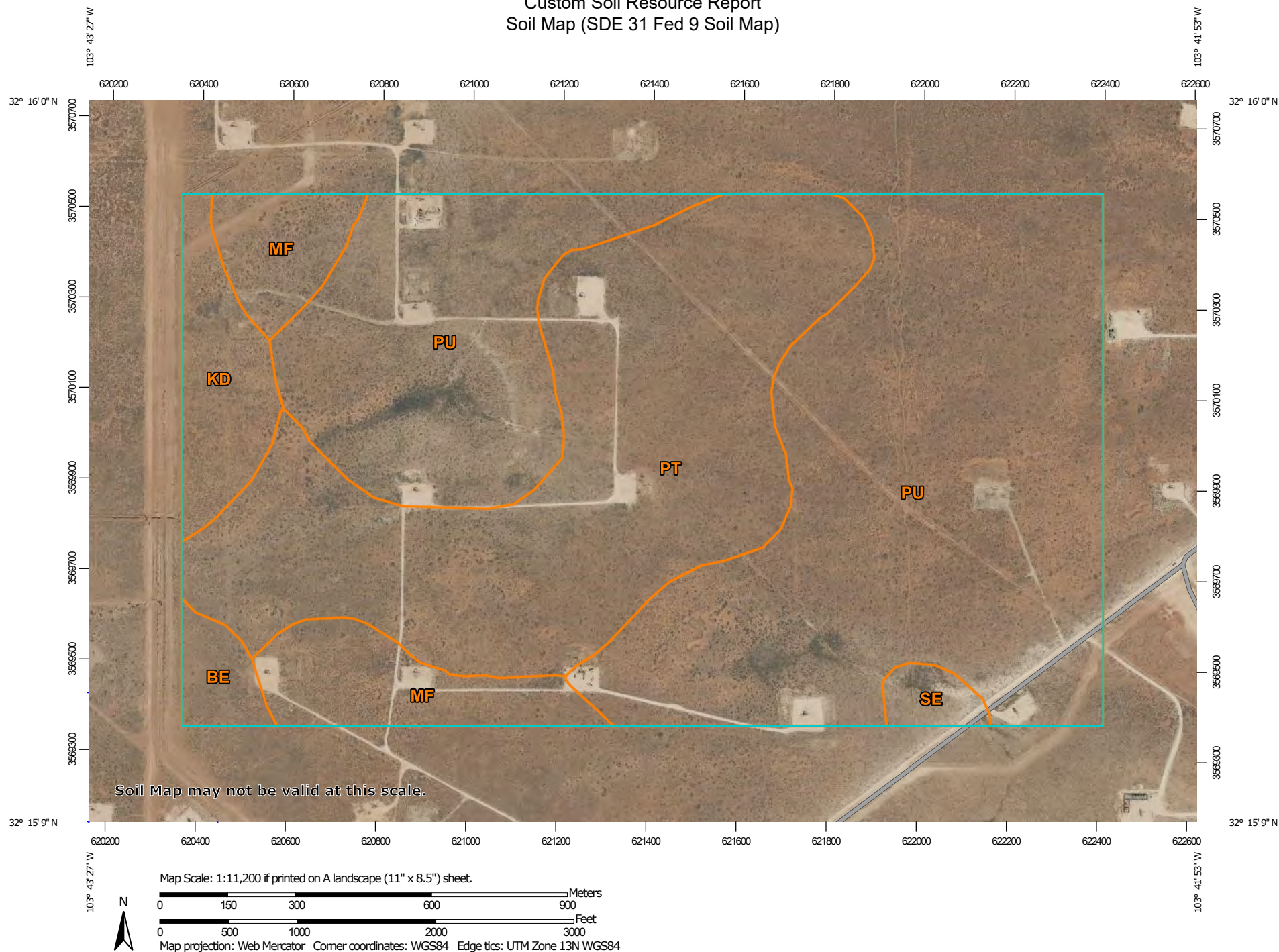


## Soil Map

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




Custom Soil Resource Report  
Soil Map (SDE 31 Fed 9 Soil Map)



## Custom Soil Resource Report

## MAP LEGEND

## Area of Interest (AOI)

 Area of Interest (AOI)


## Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

## Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

## Water Features

 Streams and Canals


## Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

## Background

 Aerial Photography

## MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Lea County, New Mexico  
Survey Area Data: Version 19, Sep 8, 2022

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

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

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



## Custom Soil Resource Report

## Map Unit Legend (SDE 31 Fed 9 Soil Map)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BE	Berino-Cacique loamy fine sands association	9.7	1.6%
KD	Kermit-Palomas fine sands, 0 to 12 percent slopes	26.9	4.5%
MF	Maljamar and Palomas fine sands, 0 to 3 percent slopes	46.6	7.8%
PT	Pyote loamy fine sand	188.5	31.6%
PU	Pyote and Maljamar fine sands	318.0	53.3%
SE	Simona fine sandy loam, 0 to 3 percent slopes	6.5	1.1%
<b>Totals for Area of Interest</b>		<b>596.1</b>	<b>100.0%</b>

## Map Unit Descriptions (SDE 31 Fed 9 Soil Map)

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

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

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



## Custom Soil Resource Report

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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



## Custom Soil Resource Report

## Lea County, New Mexico

**BE—Berino-Cacique loamy fine sands association****Map Unit Setting**

*National map unit symbol:* dmpd  
*Elevation:* 3,000 to 3,900 feet  
*Mean annual precipitation:* 10 to 13 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**

*Berino and similar soils:* 50 percent  
*Cacique and similar soils:* 40 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Berino****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 over calcareous sandy alluvium derived from sedimentary rock

**Typical profile**

*A - 0 to 6 inches:* loamy fine sand  
*Btk - 6 to 60 inches:* sandy clay loam

**Properties and qualities**

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 40 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water supply, 0 to 60 inches:* Moderate (about 8.7 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7c  
*Hydrologic Soil Group:* B  
*Ecological site:* R070BD003NM - Loamy Sand  
*Hydric soil rating:* No



## Custom Soil Resource Report

**Description of Cacique****Setting**

*Landform:* Plains

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Calcareous eolian deposits derived from sedimentary rock

**Typical profile**

*A - 0 to 12 inches:* loamy fine sand

*Bt - 12 to 28 inches:* sandy clay loam

*Bkm - 28 to 38 inches:* cemented material

**Properties and qualities**

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* 20 to 40 inches to petrocalcic

*Drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 5 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* Low (about 3.6 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7c

*Hydrologic Soil Group:* C

*Ecological site:* R070BD004NM - Sandy

*Hydric soil rating:* No

**Minor Components****Maljamar**

*Percent of map unit:* 6 percent

*Ecological site:* R077CY028TX - Limy Upland 16-21" PZ

*Hydric soil rating:* No

**Palomas**

*Percent of map unit:* 4 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No



## Custom Soil Resource Report

**KD—Kermit-Palomas fine sands, 0 to 12 percent slopes****Map Unit Setting**

*National map unit symbol:* dmpv  
*Elevation:* 3,000 to 4,400 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**

*Kermit and similar soils:* 70 percent  
*Palomas and similar soils:* 20 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Kermit****Setting**

*Landform:* Dunes  
*Landform position (two-dimensional):* Shoulder, backslope, footslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave, linear, convex  
*Across-slope shape:* Convex  
*Parent material:* Calcareous sandy eolian deposits derived from sedimentary rock

**Typical profile**

*A - 0 to 8 inches:* fine sand  
*C - 8 to 60 inches:* fine sand

**Properties and qualities**

*Slope:* 3 to 12 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Excessively drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* Very high (20.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.0 to 1.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water supply, 0 to 60 inches:* Low (about 3.1 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* A  
*Ecological site:* R070BD005NM - Deep Sand  
*Hydric soil rating:* No



## Custom Soil Resource Report

**Description of Palomas****Setting**

*Landform:* Dunes

*Landform position (two-dimensional):* Shoulder, backslope, footslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex, linear, concave

*Across-slope shape:* Convex

*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

**Properties and qualities**

*Slope:* 0 to 5 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.60 to 2.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 50 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* Moderate (about 7.5 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* B

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Minor Components****Pyote**

*Percent of map unit:* 4 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Maljamar**

*Percent of map unit:* 4 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Palomas**

*Percent of map unit:* 1 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Dune land**

*Percent of map unit:* 1 percent



## Custom Soil Resource Report

Hydric soil rating: No

**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**

*Maljamar and similar soils:* 46 percent

*Palomas and similar soils:* 44 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

*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 content:* 5 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* Low (about 5.6 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 7e

*Land capability classification (nonirrigated):* 7e



## Custom Soil Resource Report

Hydrologic Soil Group: B  
Ecological site: R070BD003NM - Loamy Sand  
Hydric soil rating: No

**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

**Properties and qualities**

Slope: 0 to 3 percent  
Depth to restrictive feature: More than 80 inches  
Drainage class: Well drained  
Runoff class: Low  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high  
(0.60 to 2.00 in/hr)  
Depth to water table: More than 80 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Calcium carbonate, maximum content: 45 percent  
Gypsum, maximum content: 1 percent  
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
Sodium adsorption ratio, maximum: 2.0  
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

**Interpretive groups**

Land capability classification (irrigated): None specified  
Land capability classification (nonirrigated): 7e  
Hydrologic Soil Group: B  
Ecological site: R070BD003NM - Loamy Sand  
Hydric soil rating: No

**Minor Components****Kermit**

Percent of map unit: 5 percent  
Ecological site: R070BC022NM - Sandhills  
Hydric soil rating: No

**Wink**

Percent of map unit: 5 percent  
Ecological site: R070BD003NM - Loamy Sand  
Hydric soil rating: No



## Custom Soil Resource Report

**PT—Pyote loamy fine sand****Map Unit Setting**

*National map unit symbol:* dmqp

*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 200 days

*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Pyote and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**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 25 inches:* loamy fine sand

*Bt - 25 to 60 inches:* fine sandy loam

**Properties and qualities**

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*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 content:* 5 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* Low (about 5.3 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 6e

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* A

*Ecological site:* R070BD003NM - Loamy Sand



## Custom Soil Resource Report

*Hydric soil rating:* No

**Minor Components****Maljamar**

*Percent of map unit:* 8 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Palomas**

*Percent of map unit:* 7 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**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**

*Pyote and similar soils:* 46 percent

*Maljamar and similar soils:* 44 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**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

*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



## Custom Soil Resource Report

Frequency of flooding: None  
Frequency of ponding: None  
Calcium carbonate, maximum content: 5 percent  
Gypsum, maximum content: 1 percent  
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
Sodium adsorption ratio, maximum: 2.0  
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

**Interpretive groups**

Land capability classification (irrigated): 6e  
Land capability classification (nonirrigated): 7s  
Hydrologic Soil Group: A  
Ecological site: R070BD003NM - Loamy Sand  
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  
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 content: 5 percent  
Gypsum, maximum content: 1 percent  
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
Sodium adsorption ratio, maximum: 2.0  
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

**Interpretive groups**

Land capability classification (irrigated): 6e  
Land capability classification (nonirrigated): 7e  
Hydrologic Soil Group: B  
Ecological site: R070BD003NM - Loamy Sand  
Hydric soil rating: No

**Minor Components****Kermit**

Percent of map unit: 10 percent  
Ecological site: R070BC022NM - Sandhills



## Custom Soil Resource Report

Hydric soil rating: No

**SE—Simona fine sandy loam, 0 to 3 percent slopes****Map Unit Setting**

National map unit symbol: dmr2  
Elevation: 3,000 to 4,200 feet  
Mean annual precipitation: 10 to 15 inches  
Mean annual air temperature: 58 to 62 degrees F  
Frost-free period: 190 to 205 days  
Farmland classification: Not prime farmland

**Map Unit Composition**

Simona and similar soils: 85 percent  
Minor components: 15 percent  
Estimates are based on observations, descriptions, and transects of the mapunit.

**Description of Simona****Setting**

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

**Typical profile**

A - 0 to 8 inches: fine sandy loam  
Bk - 8 to 16 inches: gravelly fine sandy loam  
Bkm - 16 to 26 inches: cemented material

**Properties and qualities**

Slope: 0 to 3 percent  
Depth to restrictive feature: 7 to 20 inches to petrocalcic  
Drainage class: Well drained  
Runoff class: Very high  
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)  
Depth to water table: More than 80 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Calcium carbonate, maximum content: 35 percent  
Gypsum, maximum content: 1 percent  
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
Sodium adsorption ratio, maximum: 2.0  
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

**Interpretive groups**

Land capability classification (irrigated): 6s  
Land capability classification (nonirrigated): 7s



## Custom Soil Resource Report

*Hydrologic Soil Group:* D  
*Ecological site:* R070BD002NM - Shallow Sandy  
*Hydric soil rating:* No

### Minor Components

#### **Kimbrough**

*Percent of map unit:* 8 percent  
*Ecological site:* R077CY037TX - Very Shallow 16-21" PZ  
*Hydric soil rating:* No

#### **Lea**

*Percent of map unit:* 7 percent  
*Ecological site:* R077CY028TX - Limy Upland 16-21" PZ  
*Hydric soil rating:* No



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## Custom Soil Resource Report

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# Ecological site R070BD003NM

## Loamy Sand

Accessed: 11/05/2022

### General information

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

Figure 1. Mapped extent

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

### Associated sites

R070BD004NM	<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	(1) Fan piedmont (2) Alluvial fan (3) Dune
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	(1) Fine sand (2) Fine sandy loam (3) Loamy fine sand
Family particle size	(1) Sandy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to moderately rapid



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):

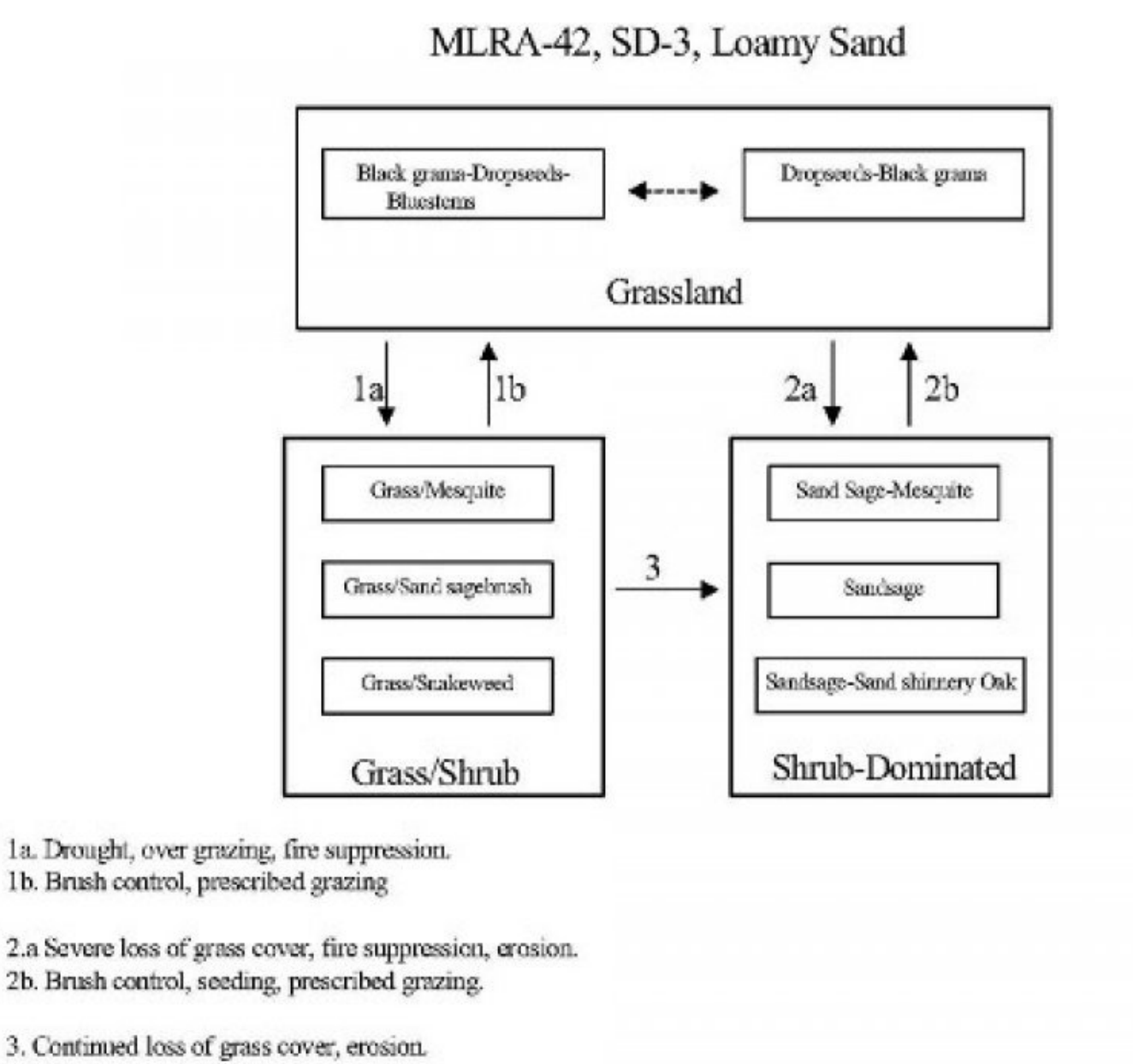


Figure 4.

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 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)	High (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	0%
Grass/grasslike foliar cover	28%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	22%

Figure 6. 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	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

State 2  
Grass/Shrub

Community 2.1  
Grass/Shrub





**Grass/Shrub 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



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/threawns cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite/dropseed/threawn 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 (%)
<b>Grass/Grasslike</b>					
1	<b>Warm Season</b>			61–123	
	little bluestem	SCSC	<i>Schizachyrium scoparium</i>	61–123	–
2	<b>Warm Season</b>			37–61	
	sand bluestem	ANHA	<i>Andropogon hallii</i>	37–61	–
3	<b>Warm Season</b>			37–61	
	cane bluestem	BOBA3	<i>Bothriochloa barbinodis</i>	37–61	–
	silver bluestem	BOSA	<i>Bothriochloa saccharoides</i>	37–61	–
4	<b>Warm Season</b>			123–184	
	black grama	BOER4	<i>Bouteloua eriopoda</i>	123–184	–
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	123–184	–
5	<b>Warm Season</b>			123–184	
	thin paspalum	PASE5	<i>Paspalum setaceum</i>	123–184	–
	plains bristlegrass	SEVU2	<i>Setaria vulpiseta</i>	123–184	–
	fringed signalgrass	URCI	<i>Urochloa ciliatissima</i>	123–184	–
6	<b>Warm Season</b>			123–184	
	spike dropseed	SPCO4	<i>Sporobolus contractus</i>	123–184	–
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	123–184	–
	mesa dropseed	SPFL2	<i>Sporobolus flexuosus</i>	123–184	–
7	<b>Warm Season</b>			61–123	
	hooded windmill grass	CHCU2	<i>Chloris cucullata</i>	61–123	–
	Arizona cottontop	DICA8	<i>Digitaria californica</i>	61–123	–
9	<b>Other Perennial Grasses</b>			37–61	
	Grass, perennial	2GP	<i>Grass, perennial</i>	37–61	–
<b>Shrub/Vine</b>					
8	<b>Warm Season</b>			37–61	
	New Mexico feathergrass	HENE5	<i>Hesperostipa neomexicana</i>	37–61	–
	giant dropseed	SPGI	<i>Sporobolus giganteus</i>	37–61	–
10	<b>Shrub</b>			61–123	



	sand sagebrush	ARFI2	<i>Artemisia filifolia</i>	61–123	–
	Havard oak	QUHA3	<i>Quercus havardii</i>	61–123	–
11	<b>Shrub</b>			34–61	
	fourwing saltbush	ATCA2	<i>Atriplex canescens</i>	37–61	–
	featherplume	DAFO	<i>Dalea formosa</i>	37–61	–
12	<b>Shrub</b>			37–61	
	jointfir	EPHED	<i>Ephedra</i>	37–61	–
	littleleaf ratany	KRER	<i>Krameria erecta</i>	37–61	–
13	<b>Other Shrubs</b>			37–61	
	Shrub (>.5m)	2SHRUB	<i>Shrub (&gt;.5m)</i>	37–61	–
<b>Forb</b>					
14	<b>Forb</b>			61–123	
	leatherweed	CRPOP	<i>Croton pottsii</i> var. <i>pottsii</i>	61–123	–
	Indian blanket	GAPU	<i>Gaillardia pulchella</i>	61–123	–
	globemallow	SPHAE	<i>Sphaeralcea</i>	61–123	–
15	<b>Forb</b>			12–37	
	woolly groundsel	PACA15	<i>Packera cana</i>	12–37	–
16	<b>Forb</b>			61–123	
	touristplant	DIWI2	<i>Dimorphocarpa wislizeni</i>	61–123	–
	woolly plantain	PLPA2	<i>Plantago patagonica</i>	61–123	–
17	<b>Other Forbs</b>			37–61	
	Forb (herbaceous, not grass nor grass-like)	2FORB	<i>Forb (herbaceous, not grass nor grass-like)</i>	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, black 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 – 3.5

75 – 51 3.0 – 4.5

50 – 26 4.6 – 9.0

25 – 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

Literature Cited:

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Britton, Carlton M.; Wright, Henry A. 1971. Correlation of weather and fuel variables to mesquite damage by fire. Journal of Range Management 24:136-141.

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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 annual-production):**
- 
16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**
-

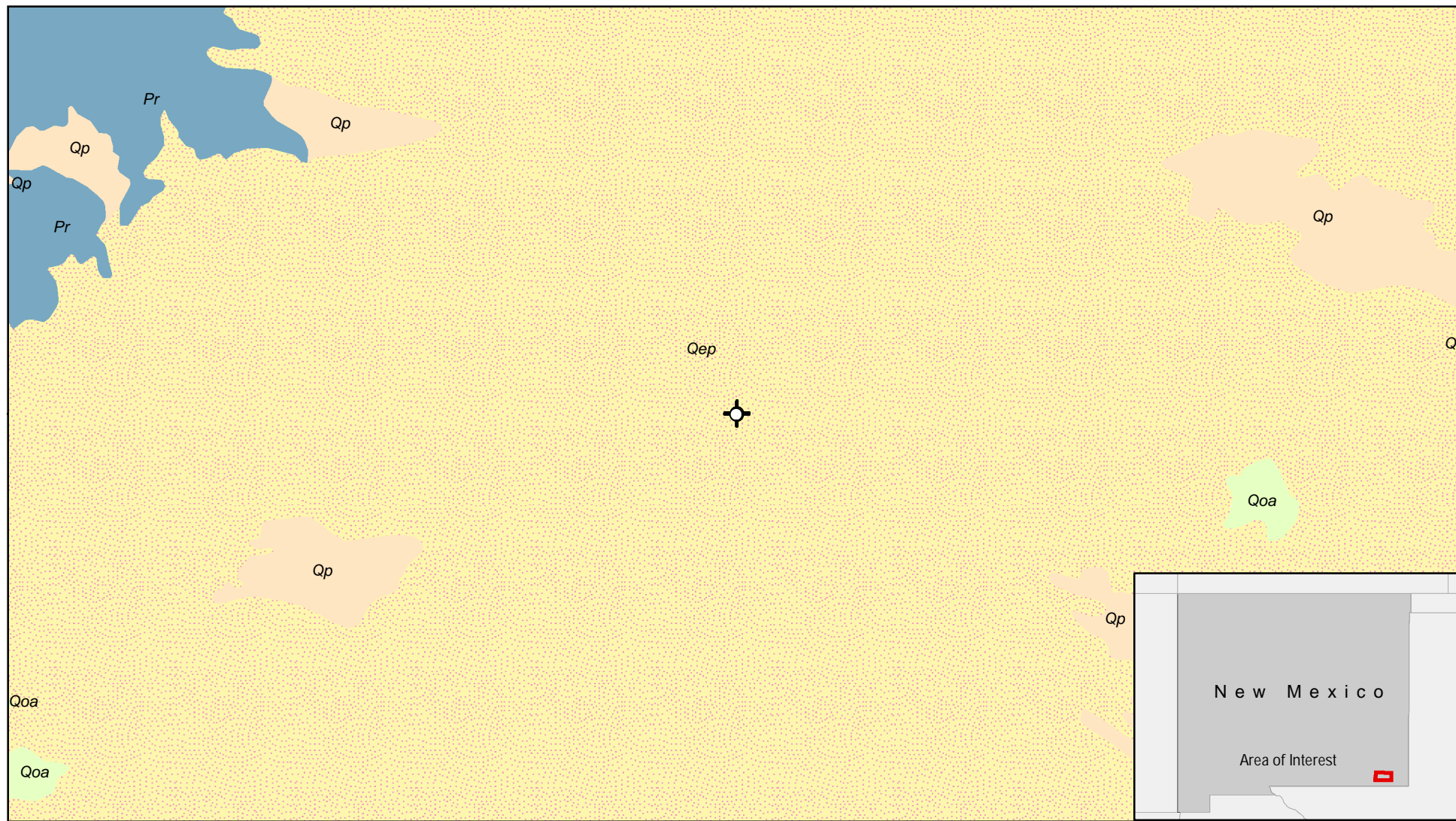


**17. Perennial plant reproductive capability:**

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Site Location

**Lithologic Units**

Pr Qp

Qoa To



0 1.25 2.5 Miles

Map Center:  
Lat/Long: 32.259125, -103.711578

NAD 1983 UTM Zone 13N  
Date: Nov 16/22



**New Mexico Geology**  
**Geology SDE 31 Federal #009**

FIGURE:

G



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

Note: Geology data sourced from New Mexico Bureau of Geology & Mineral Resources, Bureau of Land Management.

VERSATILITY. EXPERTISE.



## **ATTACHMENT 5**



Client Name: Devon Energy Production Company, LP

Site Name: SDE 31 Federal #009

NM OCD Tracking #: nPAC0534054352, nPAC0534054473, nPRS0531129171

Project #: 21E-02816-036

Lab Reports: 2203002, 2209219, 2211577

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BH22-01	0-0.5	February 24, 2022	0	73	10,000	ND	ND	ND	ND	ND	ND	ND	17,000
	2	February 24, 2022	0	43	3,000	ND	ND	ND	ND	ND	ND	ND	3,600
	3	September 3, 2022	0	-	8,681	ND	ND	ND	ND	ND	ND	ND	5,300
	4	February 24, 2022	0	24	1,725	ND	ND	ND	ND	ND	ND	ND	1,700
BH22-02	0-0.5	February 24, 2022	0	55	1,330	ND	ND	ND	ND	ND	ND	ND	800
	2	February 24, 2022	0	19	200	ND	ND	ND	ND	ND	ND	ND	160
	4	February 24, 2022	0	31	230	ND	ND	ND	ND	ND	ND	ND	87
BH22-03	0-0.5	February 24, 2022	0	62	420	ND	ND	ND	ND	ND	ND	ND	670
	2	February 24, 2022	0	43	190	ND	ND	ND	ND	ND	ND	ND	87
	4	February 24, 2022	0	7	215	ND	ND	ND	ND	ND	ND	ND	91
BH22-04	0-0.5	February 24, 2022	0	-	260	ND	ND	ND	ND	ND	ND	ND	83
	2	February 24, 2022	0	-	190	ND	ND	ND	ND	ND	ND	ND	ND
	4	February 24, 2022	0	-	175	ND	ND	ND	ND	ND	ND	ND	180
BH22-05	0-0.5	February 24, 2022	0	-	300	ND	ND	ND	ND	ND	ND	ND	170
	2	February 24, 2022	0	-	235	ND	ND	ND	ND	ND	ND	ND	210
	4	February 24, 2022	0	-	185	ND	ND	ND	ND	ND	ND	ND	75
BH22-06	0-0.5	February 24, 2022	0	-	275	ND	ND	ND	ND	ND	ND	ND	70
	2	February 24, 2022	-	-	210	ND	ND	ND	ND	ND	ND	ND	ND
	4	February 24, 2022	0	-	130	ND	ND	ND	ND	ND	ND	ND	86
BH22-07	0-0.5	February 24, 2022	0	49	395	ND	ND	ND	ND	ND	ND	ND	820
	2	February 24, 2022	0	60	315	ND	ND	ND	ND	ND	ND	ND	230
	4	February 24, 2022	0	14	260	ND	ND	ND	ND	ND	ND	ND	82
BH22-08	0-0.5	February 24, 2022	0	-	160	ND	ND	ND	ND	ND	ND	ND	220
	2	September 3, 2022	1	-	111	ND	ND	ND	ND	ND	ND	ND	350
	2.5	September 3, 2022	0	-	622	ND	ND	ND	ND	ND	ND	ND	750
BH22-09	0	September 3, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	78
	2	September 3, 2022	1	-	5,237	ND	ND	ND	ND	ND	ND	ND	4500
	3.5	September 3, 2022	2	-	936	ND	ND	ND	ND	ND	ND	ND	1100
BH22-10	0	September 3, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 3, 2022	0	-	1,812	ND	ND	ND	ND	ND	ND	ND	2300
	2.5	September 3, 2022	0	-	2,304	ND	ND	ND	ND	ND	ND	ND	1900
BH22-11	0	September 3, 2022	1	-	2,375	ND	ND	ND	ND	ND	ND	ND	2500
	2	September 3, 2022	0	-	15,101	ND	ND	ND	ND	ND	ND	ND	11000
	2.5	September 3, 2022	0	-	8,444	ND	ND	ND	ND	ND	ND	ND	7200
BH22-12	0	September 3, 2022	0	-	9,748	ND	ND	ND	ND	ND	ND	ND	8600
	2	September 3, 2022	0	-	7,897	ND	ND	ND	ND	ND	ND	ND	7100
	2.5	September 3, 2022	0	-	7,300	ND	ND	ND	ND	ND	ND	ND	6100
BH22-13	0	September 3, 2022	58	-	12,224	ND	ND	35	5400	2900	5435	8335	10000
	2	September 3, 2022	0	-	6,220	ND	ND	ND	ND	ND	ND	ND	5100
	2.5	September 3, 2022	2	-	8,192	ND	ND	ND	180	130	180	310	7200
	4	November 7, 2022	-	-	4,806	ND	ND	ND	ND	ND	ND	ND	3500
	6	November 7, 2022	-	21	645	ND	ND	ND	ND	ND	ND	ND	160
BH22-14	8	November 7, 2022	-	22	598	ND	ND	ND	ND	ND	ND	ND	190
	0	September 3, 2022	0	-	4	ND	ND	ND	ND	ND	ND	ND	77
BH22-15	2	September 3, 2022	0	-	868	ND	ND	ND	ND	ND	ND	ND	880
	0	September 3, 2022	0	-	473	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 3, 2022	0	-	2,892	ND	ND	ND	ND	ND	ND	ND	1700
BH22-16	3	September 3, 2022	0	-	913	ND	ND	ND	ND	ND	ND	ND	460
	0	September 3, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 3, 2022	0	-	5,393	ND	ND	ND	ND	ND	ND	ND	4800
BH22-17	3	September 3, 2022	3	-	913	ND	ND	ND	ND	ND	ND	ND	1900
	0	September 3, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 3, 2022	0	-	3,749	ND	ND	ND	ND	ND	ND	ND	2500
	4	September 3, 2022	0	-	2,649	ND	ND	ND	ND	ND	ND	ND	2100



Client Name: Devon Energy Production Company, LP

Site Name: SDE 31 Federal #009

NM OCD Tracking #: nPAC0534054352, nPAC0534054473, nPRS0531129171

Project #: 21E-02816-036

Lab Reports: 2203002, 2209219, 2211577

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BH22-18	0	September 3, 2022	0	-	3,030	ND	ND	ND	ND	ND	ND	ND	2400
	2	September 3, 2022	0	-	11,224	ND	ND	ND	ND	ND	ND	ND	8800
	3	September 3, 2022	0	-	8,127	ND	ND	ND	ND	ND	ND	ND	7400
BH22-19	0	September 3, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 3, 2022	0	-	132	ND	ND	ND	ND	ND	ND	ND	180
	4	September 3, 2022	0	-	880	ND	ND	ND	ND	ND	ND	ND	330
BH22-20	0	September 3, 2022	0	-	155	ND	ND	ND	ND	ND	ND	ND	96
	2	September 3, 2022	0	-	396	ND	ND	ND	ND	ND	ND	ND	300
	3.5	September 3, 2022	0	-	1,633	ND	ND	ND	ND	ND	ND	ND	1500
BH22-21	0	September 3, 2022	0	-	8,501	ND	ND	ND	ND	ND	ND	ND	8900
	2	September 3, 2022	0	-	7,265	ND	ND	ND	ND	ND	ND	ND	5300
	3	September 3, 2022	0	-	8,430	ND	ND	ND	ND	ND	ND	ND	6700
BH22-22	0	September 4, 2022	1	57	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 4, 2022	1	64	ND	ND	ND	ND	ND	ND	ND	ND	66
	4	September 4, 2022	1	70	554	ND	ND	ND	ND	ND	ND	ND	500
BH22-23	0	September 4, 2022	1	29	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 4, 2022	2	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3.5	September 4, 2022	1	30	ND	ND	ND	ND	ND	ND	ND	ND	170
BH22-24	0	September 4, 2022	1	-	18,419	ND	ND	ND	ND	ND	ND	ND	16000
	2	September 4, 2022	1	-	5,734	ND	ND	ND	ND	ND	ND	ND	4900
	4	September 4, 2022	1	-	648	ND	ND	ND	ND	ND	ND	ND	510
BH22-25	0	November 7, 2022	-	33	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	November 7, 2022	-	45	99	ND	ND	ND	ND	ND	ND	ND	120
BH22-26	0	November 7, 2022	-	23	357	ND	ND	ND	ND	ND	ND	ND	190
	2	November 7, 2022	-	21	503	ND	ND	ND	ND	ND	ND	ND	210
BH22-27	0	November 7, 2022	-	23	28	ND	ND	ND	ND	ND	ND	ND	ND
	2	November 7, 2022	-	18	505	ND	ND	ND	ND	ND	ND	ND	210
BH22-28	0	November 7, 2022	-	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	November 7, 2022	-	37	598	ND	ND	ND	ND	ND	ND	ND	440
BH22-29	0	November 4, 2022	-	-	1,824	-	-	-	-	-	-	-	-
	2	November 4, 2022	-	-	5,770	-	-	-	-	-	-	-	-
BH22-30	0	November 4, 2022	-	-	174	-	-	-	-	-	-	-	-
	2	November 4, 2022	-	-	1,792	-	-	-	-	-	-	-	-
BH22-31	0	November 4, 2022	-	-	178	-	-	-	-	-	-	-	-
	2	November 4, 2022	-	-	828	-	-	-	-	-	-	-	-
BH22-32	0	November 4, 2022	-	-	180	-	-	-	-	-	-	-	-
	1.5	November 4, 2022	-	-	1,213	-	-	-	-	-	-	-	-
BH22-33	0	November 4, 2022	-	-	217	-	-	-	-	-	-	-	-
	2	November 4, 2022	-	-	3,471	-	-	-	-	-	-	-	-
BH22-34	0	November 4, 2022	-	-	2,963	-	-	-	-	-	-	-	-
	2	November 4, 2022	-	-	545	-	-	-	-	-	-	-	-
BH22-35	0	November 7, 2022	-	40	7	ND	ND	ND	ND	ND	ND	ND	ND
	2	November 7, 2022	-	14	ND	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit

"-." indicates not analyzed/assessed

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



Client Name: Devon Energy Production Company, LP

Site Name: SDE 31 Federal #009

NM OCD Tracking #: nPAC0534054352, nPAC0534054473, nPRS0531129171

Project #: 21E-02816-036

Lab Reports: 2212211

Table 3. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater 51-100 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS22-01	4	December 2, 2022	0	-	63	ND	ND	ND	ND	ND	ND	ND	ND
BS22-02	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-03	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-04	4	December 2, 2022	0	-	243	ND	ND	ND	ND	ND	ND	ND	ND
BS22-05	4	December 2, 2022	0	-	222	ND	ND	ND	ND	ND	ND	ND	ND
BS22-06	4	December 2, 2022	0	-	300	ND	ND	ND	ND	ND	ND	ND	ND
BS22-07	4	December 2, 2022	0	-	1,007	ND	ND	ND	ND	ND	ND	ND	67
BS22-08	4	December 2, 2022	0	-	251	ND	ND	ND	ND	ND	ND	ND	ND
BS22-09	4	December 2, 2022	0	-	135	ND	ND	ND	ND	ND	ND	ND	ND
BS22-10	4	December 2, 2022	0	-	222	ND	ND	ND	ND	ND	ND	ND	ND
BS22-11	4	December 2, 2022	0	-	139	ND	ND	ND	ND	ND	ND	ND	ND
BS22-12	4	December 2, 2022	0	-	177	ND	ND	ND	ND	ND	ND	ND	ND
BS22-13	4	December 2, 2022	0	-	180	ND	ND	ND	ND	ND	ND	ND	ND
BS22-14	4	December 2, 2022	0	-	155	ND	ND	ND	ND	ND	ND	ND	ND
BS22-15	4	December 2, 2022	0	-	93	ND	ND	ND	ND	ND	ND	ND	ND
BS22-16	4	December 2, 2022	0	-	287	ND	ND	ND	ND	ND	ND	ND	ND
BS22-17	4	December 2, 2022	0	-	190	ND	ND	ND	ND	ND	ND	ND	ND
BS22-18	4	December 2, 2022	0	-	613	ND	ND	ND	ND	ND	ND	ND	ND
BS22-19	4	December 2, 2022	0	-	126	ND	ND	ND	ND	ND	ND	ND	ND
BS22-20	4	December 2, 2022	0	-	310	ND	ND	ND	ND	ND	ND	ND	ND
BS22-21	4	December 2, 2022	0	-	118	ND	ND	ND	ND	ND	ND	ND	ND
BS22-22	4	December 2, 2022	0	-	44	ND	ND	ND	ND	ND	ND	ND	ND
BS22-23	4	December 2, 2022	0	-	112	ND	ND	ND	ND	ND	ND	ND	ND
BS22-24	4	December 2, 2022	0	-	106	ND	ND	ND	ND	ND	ND	ND	ND
BS22-25	4	December 2, 2022	0	-	160	ND	ND	ND	ND	ND	ND	ND	ND
BS22-26	4	December 2, 2022	0	-	33	ND	ND	ND	ND	ND	ND	ND	ND
BS22-27	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-28	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-29	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-30	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-31	4	December 2, 2022	0	-	795	ND	ND	ND	ND	ND	ND	ND	ND
BS22-32	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-33	4	December 2, 2022	0	-	21	ND	ND	ND	ND	ND	ND	ND	ND
BS22-34	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-35	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-36	4	December 2, 2022	0	-	75	ND	ND	ND	ND	ND	ND	ND	ND
BS22-37	4	December 2, 2022	0	-	112	ND	ND	ND	ND	ND	ND	ND	100
BS22-38	4	December 2, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS22-39	4	December 2, 2022	0	-	98	ND	ND	ND	ND	ND	ND	ND	89
BS22-40	4	December 2, 2022	0	-	307	ND	ND	ND	ND	ND	ND	ND	180
BS22-41	4	December 2, 2022	0	-	363	ND	ND	ND	ND	ND	ND	ND	280
BS22-42	4	December 2, 2022	0	-	565	ND	ND	ND	ND	ND	ND	ND	280
BS22-43	4	December 2, 2022	0	-	756	ND	ND	ND	ND	ND	ND	ND	430
BS22-44	4	December 2, 2022	0	-	541	ND	ND	ND	ND	ND	ND	ND	330
BS22-45	4	December 2, 2022	0	-	336	ND	ND	ND	51	ND	51	51	ND
BS22-46	4	December 2, 2022	0	-	232	ND	ND	ND	ND	ND	ND	ND	ND
BS22-47	4	December 2, 2022	0	-	411	ND	ND	ND	ND	ND	ND	ND	ND
BS22-48	4	December 2, 2022	0	-	401	ND	ND	ND	ND	ND	ND	ND	ND
BS22-49	4	December 2, 2022	0	-	324	ND	ND	ND	ND	ND	ND	ND	ND
BS22-50	4	December 2, 2022	0	-	331	ND	ND	ND	ND	ND	ND	ND	ND
BS22-51	4	December 2, 2022	0	-	269	ND	ND	ND	ND	ND	ND	ND	ND
BS22-52	4	December 2, 2022	0	-	370	ND	ND	ND	ND	ND	ND	ND	ND
BS22-53	4	December 2, 2022	0	-	297	ND	ND	ND	ND	ND	ND	ND	ND
BS22-54	4	December 2, 2022	0	-	342	ND	ND	ND	ND	ND	ND	ND	ND
BS22-55	4	December 2, 2022	0	-	262	ND	ND	ND	ND	ND	ND	ND	ND
BS22-56	4	December 2, 2022	0	-	308	ND	ND	ND	ND	ND	ND	ND	ND



Client Name: Devon Energy Production Company, LP

Site Name: SDE 31 Federal #009

NM OCD Tracking #: nPAC0534054352, nPAC0534054473, nPRS0531129171

Project #: 21E-02816-036

Lab Reports: 2212211

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS22-57	4	December 2, 2022	0	-	370	ND	ND	ND	ND	ND	ND	ND	ND
BS22-58	4	December 2, 2022	0	-	271	ND	ND	ND	ND	ND	ND	ND	ND
BS22-59	4	December 2, 2022	0	-	271	ND	ND	ND	ND	ND	ND	ND	ND
BS22-60	4	December 2, 2022	0	-	622	ND	ND	ND	ND	ND	ND	ND	120
BS22-61	4	December 2, 2022	0	-	538	ND	ND	ND	47	76	47	123	ND
BS22-62	4	December 2, 2022	0	-	490	ND	ND	ND	ND	ND	ND	ND	ND
BS22-63	4	December 2, 2022	0	-	610	ND	ND	ND	ND	ND	ND	ND	230
BS22-64	4	December 2, 2022	0	-	555	ND	ND	ND	ND	ND	ND	ND	ND
BS22-65	4	December 2, 2022	0	-	445	ND	ND	ND	ND	ND	ND	ND	ND
BS22-66	4	December 2, 2022	0	-	590	ND	ND	ND	ND	ND	ND	ND	180
BS22-67	4	December 2, 2022	0	-	344	ND	ND	ND	ND	ND	ND	ND	ND
BS22-68	4	December 2, 2022	0	-	417	ND	ND	ND	ND	ND	ND	ND	ND
BS22-69	4	December 2, 2022	0	-	669	ND	ND	ND	ND	ND	ND	ND	170
BS22-70	4	December 2, 2022	0	-	437	ND	ND	ND	ND	ND	ND	ND	ND
BS22-71	4	December 2, 2022	0	-	552	ND	ND	ND	ND	ND	ND	ND	66
BS22-72	4	December 2, 2022	0	-	629	ND	ND	ND	ND	ND	ND	ND	ND
BS22-73	4	December 2, 2022	0	-	1,140	ND	ND	ND	ND	ND	ND	ND	490
BS22-74	4	December 2, 2022	0	-	438	ND	ND	ND	ND	ND	ND	ND	ND
BS22-75	4	December 2, 2022	0	-	424	ND	ND	ND	ND	ND	ND	ND	ND
BS22-76	4	December 2, 2022	0	-	673	ND	ND	ND	ND	ND	ND	ND	200
BS22-77	4	December 2, 2022	0	-	1,174	ND	ND	ND	ND	ND	ND	ND	540
BS22-78	4	December 2, 2022	0	-	330	ND	ND	ND	ND	ND	ND	ND	ND
BS22-79	4	December 2, 2022	0	-	340	ND	ND	ND	ND	ND	ND	ND	ND
BS22-80	4	December 2, 2022	0	-	253	ND	ND	ND	ND	ND	ND	ND	ND
BS22-81	4	December 2, 2022	0	-	379	ND	ND	ND	ND	ND	ND	ND	ND
BS22-82	4	December 2, 2022	0	-	278	ND	ND	ND	ND	ND	ND	ND	ND
BS22-83	4	December 2, 2022	0	-	269	ND	ND	ND	ND	ND	ND	ND	ND
BS22-84	4	December 2, 2022	0	-	418	ND	ND	ND	17	ND	17	17	ND
BS22-85	4	December 2, 2022	0	-	311	ND	ND	ND	ND	ND	ND	ND	ND
BS22-86	4	December 2, 2022	0	-	865	ND	ND	ND	ND	ND	ND	ND	360
BS22-87	4	December 2, 2022	0	-	275	ND	ND	ND	ND	ND	ND	ND	ND
BS22-88	4	December 2, 2022	0	-	906	ND	ND	ND	ND	ND	ND	ND	320
BS22-89	4	December 2, 2022	0	-	2,076	ND	ND	ND	ND	ND	ND	ND	1100
BS22-90	4	December 2, 2022	0	-	398	ND	ND	ND	ND	ND	ND	ND	ND
BS22-91	4	December 2, 2022	0	-	1,307	ND	ND	ND	ND	ND	ND	ND	700
BS22-92	4	December 2, 2022	0	-	2,524	ND	ND	ND	ND	ND	ND	ND	1600
BS22-93	4	December 2, 2022	0	-	1,830	ND	ND	ND	ND	ND	ND	ND	850
BS22-94	4	December 2, 2022	0	-	5,013	ND	ND	ND	ND	ND	ND	ND	3900
BS22-95	4	December 2, 2022	0	-	978	ND	ND	ND	ND	ND	ND	ND	310
BS22-96	4	December 2, 2022	0	-	790	ND	ND	ND	ND	ND	ND	ND	230
BS22-97	4	December 2, 2022	0	-	477	ND	ND	ND	ND	ND	ND	ND	88
BS22-98	4	December 2, 2022	0	-	444	ND	ND	ND	ND	ND	ND	ND	ND
BS22-99	4	December 2, 2022	0	-	3,082	ND	ND	ND	ND	ND	ND	ND	1900
BS22-100	4	December 2, 2022	0	-	6,652	ND	ND	ND	ND	ND	ND	ND	5000
BS22-101	4	December 2, 2022	0	-	8,384	ND	ND	ND	ND	ND	ND	ND	6300
BS22-102	4	December 2, 2022	0	-	1,265	ND	ND	ND	ND	ND	ND	ND	700
BS22-103	4	December 2, 2022	0	-	1,895	ND	ND	ND	ND	ND	ND	ND	1300
BS22-104	4	December 2, 2022	0	-	1,625	ND	ND	ND	ND	ND	ND	ND	930
BS22-105	4	December 2, 2022	0	-	935	ND	ND	ND	ND	ND	ND	ND	600
BS22-106	4	December 2, 2022	0	-	7,109	ND	ND	ND	ND	ND	ND	ND	4200
BS22-107	4	December 2, 2022	0	-	1,415	ND	ND	ND	ND	ND	ND	ND	930
BS22-108	4	December 2, 2022	0	-	419	ND	ND	ND	ND	ND	ND	ND	120
BS22-109	4	December 2, 2022	0	-	404	ND	ND	ND	ND	ND	ND	ND	ND
BS22-110	4	December 2, 2022	0	-	184	ND	ND	ND	ND	ND	ND	ND	160
BS22-111	4	December 2, 2022	0	-	223	ND	ND	ND	ND	ND	ND	ND	ND
BS22-112	4	December 2, 2022	0	-	228	ND	ND	ND	ND	ND	ND	ND	ND



Client Name: Devon Energy Production Company, LP

Site Name: SDE 31 Federal #009

NM OCD Tracking #: nPAC0534054352, nPAC0534054473, nPRS0531129171

Project #: 21E-02816-036

Lab Reports: 2212211

Table 3. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater 51-100 feet bgs													
Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BS22-113	4	December 2, 2022	0	-	176	ND	ND	ND	ND	ND	ND	ND	ND
BS22-114	4	December 2, 2022	0	-	200	ND	ND	ND	ND	19	ND	19	ND
BS22-115	4	December 2, 2022	0	-	346	ND	ND	ND	30	ND	30	30	150
BS22-116	4	December 2, 2022	0	-	249	ND	ND	ND	ND	ND	ND	ND	ND
BS22-117	4	December 2, 2022	0	-	220	ND	ND	ND	ND	ND	ND	ND	77
BS22-118	4	December 2, 2022	0	-	154	ND	ND	ND	ND	ND	ND	ND	ND
BS22-119	4	December 2, 2022	0	-	139	ND	ND	ND	ND	ND	ND	ND	ND
BS22-120	4	December 2, 2022	0	-	304	ND	ND	ND	ND	ND	ND	ND	ND
BS22-121	4	December 2, 2022	0	-	189	ND	ND	ND	ND	ND	ND	ND	ND
BS22-122	4	December 2, 2022	0	-	675	ND	ND	ND	ND	ND	ND	ND	340
BS22-123	4	December 2, 2022	0	-	444	ND	ND	ND	ND	ND	ND	ND	110
BS22-124	4	December 2, 2022	0	-	292	ND	ND	ND	ND	ND	ND	ND	94
BS22-125	4	December 2, 2022	0	-	562	ND	ND	ND	ND	ND	ND	ND	140
BS22-126	4	December 2, 2022	0	-	627	ND	ND	ND	ND	ND	ND	ND	160
BS22-127	4	December 2, 2022	0	-	733	ND	ND	ND	ND	ND	ND	ND	210
WS22-01	0-4	December 2, 2022	0	13	412	ND	ND	ND	ND	ND	ND	ND	ND
WS22-02	0-4	December 2, 2022	0	20	406	ND	ND	ND	ND	ND	ND	ND	ND
WS22-03	0-4	December 2, 2022	0	18	415	ND	ND	ND	ND	ND	ND	ND	ND
WS22-04	0-4	December 2, 2022	0	22	152	ND	ND	ND	ND	ND	ND	ND	ND
WS22-05	0-4	December 2, 2022	0	23	125	ND	ND	ND	ND	ND	ND	ND	ND
WS22-06	0-4	December 2, 2022	0	22	113	ND	ND	ND	ND	ND	ND	ND	ND
WS22-07	0-4	December 2, 2022	0	15	99	ND	ND	ND	ND	ND	ND	ND	ND
WS22-08	0-4	December 2, 2022	0	17	298	ND	ND	ND	ND	ND	ND	ND	83
WS22-09	0-4	December 2, 2022	0	16	422	ND	ND	ND	ND	ND	ND	ND	110
WS22-10	0-4	December 2, 2022	0	19	106	ND	ND	ND	ND	ND	ND	ND	ND
WS22-11	0-4	December 2, 2022	0	20	121	ND	ND	ND	ND	ND	ND	ND	ND
WS22-12	0-4	December 2, 2022	0	15	150	ND	ND	ND	ND	ND	ND	ND	ND
WS22-13	0-4	December 2, 2022	0	17	102	ND	ND	ND	ND	ND	ND	ND	ND
WS22-14	0-4	December 2, 2022	0	22	93	ND	ND	ND	ND	ND	ND	ND	ND
WS22-15	0-4	December 2, 2022	0	13	147	ND	ND	ND	ND	ND	ND	ND	ND
WS22-16	0-4	December 2, 2022	0	16	147	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit

"-." indicates not analyzed/assessed

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



## **ATTACHMENT 6**





Dhugal Hanton &lt;vertexresourcegroupusa@gmail.com&gt;

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## Confirmation sampling notice

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

Tue, Nov 29, 2022 at 9:48 AM

To: "Enviro, OCD, EMNRD" &lt;OCD.Enviro@state.nm.us&gt;, "CFO\_Spill, BLM\_NM" &lt;blm\_nm\_cfo\_spill@blm.gov&gt;

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted for the following releases:

nPAC0534054352,

nPAC0534054473,

nPRS0531129171 -all releases from 2005

Site Name: SDE 31 Federal 9

This work will be completed on behalf of Devon Energy.

Starting on Thursday, December 1st through Wednesday December 7, 2022, at approximately 8:00 a.m., Lakin Pullman will be onsite to conduct continuous confirmatory sampling. He can be reached at 701-495-1722. If you need directions to the site, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 575-361-9880.

Thank you,

**Kent Stallings** P.G.

Project Manager

Vertex Resource Services Inc.

3101 Boyd Drive,

Carlsbad, NM 88220

**P 575.725.5001****C 346.814.1413**[www.vertex.ca](http://www.vertex.ca)

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



## **ATTACHMENT 7**





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

March 09, 2022

Brandon Schafer

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX

RE: SDE 31 Fed 9

OrderNo.: 2203002

Dear Brandon Schafer:

Hall Environmental Analysis Laboratory received 22 sample(s) on 3/1/2022 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-01 0-6"

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 10:00:00 AM

Lab ID: 2203002-001

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/3/2022 4:09:06 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/3/2022 4:09:06 PM
Surr: DNOP	70.1	51.1-141		%Rec	1	3/3/2022 4:09:06 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2022 2:58:00 PM
Surr: BFB	104	70-130		%Rec	1	3/2/2022 2:58:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	3/2/2022 2:58:00 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2022 2:58:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2022 2:58:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/2/2022 2:58:00 PM
Surr: 4-Bromofluorobenzene	88.4	70-130		%Rec	1	3/2/2022 2:58:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	17000	1500		mg/Kg	500	3/7/2022 3:58:41 PM

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

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

Page 1 of 29



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-01 2'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 10:15:00 AM

Lab ID: 2203002-002

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/3/2022 4:20:15 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/3/2022 4:20:15 PM
Surr: DNOP	97.2	51.1-141		%Rec	1	3/3/2022 4:20:15 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2022 3:18:00 PM
Surr: BFB	100	70-130		%Rec	1	3/2/2022 3:18:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.025		mg/Kg	1	3/2/2022 3:18:00 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2022 3:18:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2022 3:18:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2022 3:18:00 PM
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	3/2/2022 3:18:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	3600	150		mg/Kg	50	3/7/2022 4:11:03 PM

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

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

Page 2 of 29



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-01 4'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 10:30:00 AM

Lab ID: 2203002-003

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/3/2022 4:31:24 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/3/2022 4:31:24 PM
Surr: DNOP	63.1	51.1-141		%Rec	1	3/3/2022 4:31:24 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2022 3:37:00 PM
Surr: BFB	102	70-130		%Rec	1	3/2/2022 3:37:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	3/2/2022 3:37:00 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2022 3:37:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2022 3:37:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/2/2022 3:37:00 PM
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	1	3/2/2022 3:37:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	1700	60		mg/Kg	20	3/7/2022 1:05:52 PM

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

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

Page 3 of 29



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-02 0-6"

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 10:45:00 AM

Lab ID: 2203002-004

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	3/4/2022 11:06:07 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	3/4/2022 11:06:07 AM
Surr: DNOP	60.4	51.1-141		%Rec	1	3/4/2022 11:06:07 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2022 3:57:00 PM
Surr: BFB	99.8	70-130		%Rec	1	3/2/2022 3:57:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	3/2/2022 3:57:00 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2022 3:57:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2022 3:57:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2022 3:57:00 PM
Surr: 4-Bromofluorobenzene	87.5	70-130		%Rec	1	3/2/2022 3:57:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	800	60		mg/Kg	20	3/7/2022 1:42:55 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-02 2'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 11:00:00 AM

Lab ID: 2203002-005

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/3/2022 4:53:39 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/3/2022 4:53:39 PM
Surr: DNOP	81.3	51.1-141		%Rec	1	3/3/2022 4:53:39 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2022 4:17:00 PM
Surr: BFB	107	70-130		%Rec	1	3/2/2022 4:17:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	3/2/2022 4:17:00 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2022 4:17:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2022 4:17:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2022 4:17:00 PM
Surr: 4-Bromofluorobenzene	88.7	70-130		%Rec	1	3/2/2022 4:17:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	160	60		mg/Kg	20	3/7/2022 2:44:38 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-02 4'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 11:15:00 AM

Lab ID: 2203002-006

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2022 11:30:28 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2022 11:30:28 AM
Surr: DNOP	67.4	51.1-141		%Rec	1	3/4/2022 11:30:28 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2022 4:36:00 PM
Surr: BFB	102	70-130		%Rec	1	3/2/2022 4:36:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	3/2/2022 4:36:00 PM
Toluene	ND	0.046		mg/Kg	1	3/2/2022 4:36:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2022 4:36:00 PM
Xylenes, Total	ND	0.092		mg/Kg	1	3/2/2022 4:36:00 PM
Surr: 4-Bromofluorobenzene	90.8	70-130		%Rec	1	3/2/2022 4:36:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	87	60		mg/Kg	20	3/7/2022 2:56:58 PM

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

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

Page 6 of 29



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-03 0-6"

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 11:30:00 AM

Lab ID: 2203002-007

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/3/2022 5:15:51 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/3/2022 5:15:51 PM
Surr: DNOP	97.4	51.1-141		%Rec	1	3/3/2022 5:15:51 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2022 4:56:00 PM
Surr: BFB	103	70-130		%Rec	1	3/2/2022 4:56:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	3/2/2022 4:56:00 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2022 4:56:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2022 4:56:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2022 4:56:00 PM
Surr: 4-Bromofluorobenzene	89.5	70-130		%Rec	1	3/2/2022 4:56:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	670	60		mg/Kg	20	3/7/2022 3:09:19 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-03 2'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 11:45:00 AM

Lab ID: 2203002-008

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/3/2022 5:26:55 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/3/2022 5:26:55 PM
Surr: DNOP	65.9	51.1-141		%Rec	1	3/3/2022 5:26:55 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2022 5:16:00 PM
Surr: BFB	107	70-130		%Rec	1	3/2/2022 5:16:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	3/2/2022 5:16:00 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2022 5:16:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2022 5:16:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2022 5:16:00 PM
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	3/2/2022 5:16:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	87	60		mg/Kg	20	3/7/2022 3:21:40 PM

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

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

Page 8 of 29



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-03 4'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 12:00:00 PM

Lab ID: 2203002-009

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/3/2022 5:37:59 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/3/2022 5:37:59 PM
Surr: DNOP	73.2	51.1-141		%Rec	1	3/3/2022 5:37:59 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2022 5:35:00 PM
Surr: BFB	103	70-130		%Rec	1	3/2/2022 5:35:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	3/2/2022 5:35:00 PM
Toluene	ND	0.046		mg/Kg	1	3/2/2022 5:35:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2022 5:35:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2022 5:35:00 PM
Surr: 4-Bromofluorobenzene	87.5	70-130		%Rec	1	3/2/2022 5:35:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	91	60		mg/Kg	20	3/7/2022 3:33:59 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-04 0-6"

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 12:15:00 PM

Lab ID: 2203002-010

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/3/2022 5:49:02 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/3/2022 5:49:02 PM
Surr: DNOP	79.3	51.1-141		%Rec	1	3/3/2022 5:49:02 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2022 5:55:00 PM
Surr: BFB	101	70-130		%Rec	1	3/2/2022 5:55:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.025		mg/Kg	1	3/2/2022 5:55:00 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2022 5:55:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2022 5:55:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2022 5:55:00 PM
Surr: 4-Bromofluorobenzene	89.0	70-130		%Rec	1	3/2/2022 5:55:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	83	60		mg/Kg	20	3/7/2022 3:46:20 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-04 2'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 12:30:00 PM

Lab ID: 2203002-011

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/3/2022 6:00:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2022 6:00:03 PM
Surr: DNOP	105	51.1-141		%Rec	1	3/3/2022 6:00:03 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2022 7:53:00 PM
Surr: BFB	104	70-130		%Rec	1	3/2/2022 7:53:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	3/2/2022 7:53:00 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2022 7:53:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2022 7:53:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2022 7:53:00 PM
Surr: 4-Bromofluorobenzene	90.0	70-130		%Rec	1	3/2/2022 7:53:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	ND	59		mg/Kg	20	3/7/2022 3:02:13 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-04 4'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 12:45:00 PM

Lab ID: 2203002-012

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/3/2022 6:11:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2022 6:11:03 PM
Surr: DNOP	82.3	51.1-141		%Rec	1	3/3/2022 6:11:03 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2022 8:52:00 PM
Surr: BFB	103	70-130		%Rec	1	3/2/2022 8:52:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	3/2/2022 8:52:00 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2022 8:52:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2022 8:52:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/2/2022 8:52:00 PM
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	1	3/2/2022 8:52:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	180	60		mg/Kg	20	3/7/2022 3:39:26 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-05 0-6"

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 1:00:00 PM

Lab ID: 2203002-013

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	8.2		mg/Kg	1	3/3/2022 6:22:01 PM
Motor Oil Range Organics (MRO)	ND	41		mg/Kg	1	3/3/2022 6:22:01 PM
Surr: DNOP	71.8	51.1-141		%Rec	1	3/3/2022 6:22:01 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2022 9:51:00 PM
Surr: BFB	101	70-130		%Rec	1	3/2/2022 9:51:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	3/2/2022 9:51:00 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2022 9:51:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2022 9:51:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/2/2022 9:51:00 PM
Surr: 4-Bromofluorobenzene	87.6	70-130		%Rec	1	3/2/2022 9:51:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	170	60		mg/Kg	20	3/7/2022 3:51:51 PM

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

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

Page 13 of 29



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-05 2'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 1:15:00 PM

Lab ID: 2203002-014

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/3/2022 6:32:57 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2022 6:32:57 PM
Surr: DNOP	59.2	51.1-141		%Rec	1	3/3/2022 6:32:57 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2022 10:10:00 PM
Surr: BFB	102	70-130		%Rec	1	3/2/2022 10:10:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.025		mg/Kg	1	3/2/2022 10:10:00 PM
Toluene	ND	0.050		mg/Kg	1	3/2/2022 10:10:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2022 10:10:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2022 10:10:00 PM
Surr: 4-Bromofluorobenzene	88.8	70-130		%Rec	1	3/2/2022 10:10:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	210	60		mg/Kg	20	3/7/2022 4:04:16 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-05 4'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 1:30:00 PM

Lab ID: 2203002-015

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/4/2022 12:19:05 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2022 12:19:05 PM
Surr: DNOP	75.8	51.1-141		%Rec	1	3/4/2022 12:19:05 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2022 10:30:00 PM
Surr: BFB	105	70-130		%Rec	1	3/2/2022 10:30:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	3/2/2022 10:30:00 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2022 10:30:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2022 10:30:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/2/2022 10:30:00 PM
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	3/2/2022 10:30:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	75	61		mg/Kg	20	3/7/2022 4:16:40 PM

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

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

Page 15 of 29



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-06 0-6"

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 1:45:00 PM

Lab ID: 2203002-016

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/4/2022 12:29:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2022 12:29:52 PM
Surr: DNOP	62.0	51.1-141		%Rec	1	3/4/2022 12:29:52 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2022 10:50:00 PM
Surr: BFB	103	70-130		%Rec	1	3/2/2022 10:50:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	3/2/2022 10:50:00 PM
Toluene	ND	0.046		mg/Kg	1	3/2/2022 10:50:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2022 10:50:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2022 10:50:00 PM
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	3/2/2022 10:50:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	70	60		mg/Kg	20	3/7/2022 4:29:05 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-06 2'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 2:00:00 PM

Lab ID: 2203002-017

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/4/2022 12:40:41 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2022 12:40:41 PM
Surr: DNOP	81.2	51.1-141		%Rec	1	3/4/2022 12:40:41 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2022 11:09:00 PM
Surr: BFB	99.8	70-130		%Rec	1	3/2/2022 11:09:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	3/2/2022 11:09:00 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2022 11:09:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2022 11:09:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2022 11:09:00 PM
Surr: 4-Bromofluorobenzene	87.8	70-130		%Rec	1	3/2/2022 11:09:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	ND	60		mg/Kg	20	3/7/2022 5:06:19 PM

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

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

Page 17 of 29



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-06 4'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 2:15:00 PM

Lab ID: 2203002-018

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/4/2022 12:51:32 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2022 12:51:32 PM
Surr: DNOP	74.7	51.1-141		%Rec	1	3/4/2022 12:51:32 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2022 11:29:00 PM
Surr: BFB	107	70-130		%Rec	1	3/2/2022 11:29:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.025		mg/Kg	1	3/2/2022 11:29:00 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2022 11:29:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2022 11:29:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2022 11:29:00 PM
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	3/2/2022 11:29:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	86	60		mg/Kg	20	3/7/2022 5:18:44 PM

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

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

Page 18 of 29



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-07 0-6"

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 2:30:00 PM

Lab ID: 2203002-019

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/4/2022 1:02:24 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2022 1:02:24 PM
Surr: DNOP	78.6	51.1-141		%Rec	1	3/4/2022 1:02:24 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2022 11:49:00 PM
Surr: BFB	105	70-130		%Rec	1	3/2/2022 11:49:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	3/2/2022 11:49:00 PM
Toluene	ND	0.046		mg/Kg	1	3/2/2022 11:49:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2022 11:49:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2022 11:49:00 PM
Surr: 4-Bromofluorobenzene	89.9	70-130		%Rec	1	3/2/2022 11:49:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	820	60		mg/Kg	20	3/7/2022 5:31:09 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-07 2'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 2:45:00 PM

Lab ID: 2203002-020

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/4/2022 1:13:16 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/4/2022 1:13:16 PM
Surr: DNOP	73.1	51.1-141		%Rec	1	3/4/2022 1:13:16 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2022 12:08:00 AM
Surr: BFB	102	70-130		%Rec	1	3/3/2022 12:08:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	3/3/2022 12:08:00 AM
Toluene	ND	0.046		mg/Kg	1	3/3/2022 12:08:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2022 12:08:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	3/3/2022 12:08:00 AM
Surr: 4-Bromofluorobenzene	90.0	70-130		%Rec	1	3/3/2022 12:08:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	230	60		mg/Kg	20	3/7/2022 5:43:34 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-07 4'

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 3:00:00 PM

Lab ID: 2203002-021

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2022 1:24:12 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2022 1:24:12 PM
Surr: DNOP	79.4	51.1-141		%Rec	1	3/4/2022 1:24:12 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2022 1:07:00 AM
Surr: BFB	104	70-130		%Rec	1	3/3/2022 1:07:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	3/3/2022 1:07:00 AM
Toluene	ND	0.046		mg/Kg	1	3/3/2022 1:07:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2022 1:07:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2022 1:07:00 AM
Surr: 4-Bromofluorobenzene	90.2	70-130		%Rec	1	3/3/2022 1:07:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	82	60		mg/Kg	20	3/7/2022 5:55:59 PM

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

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



## Analytical Report

Lab Order 2203002

Date Reported: 3/9/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-08 0-6"

Project: SDE 31 Fed 9

Collection Date: 2/24/2022 3:15:00 PM

Lab ID: 2203002-022

Matrix: SOIL

Received Date: 3/1/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/4/2022 1:35:09 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2022 1:35:09 PM
Surr: DNOP	77.8	51.1-141		%Rec	1	3/4/2022 1:35:09 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2022 1:27:00 AM
Surr: BFB	98.9	70-130		%Rec	1	3/3/2022 1:27:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	3/3/2022 1:27:00 AM
Toluene	ND	0.047		mg/Kg	1	3/3/2022 1:27:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2022 1:27:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	3/3/2022 1:27:00 AM
Surr: 4-Bromofluorobenzene	86.6	70-130		%Rec	1	3/3/2022 1:27:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>LRN</b>
Chloride	220	59		mg/Kg	20	3/7/2022 6:08:24 PM

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

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2203002

09-Mar-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Fed 9

Sample ID: <b>MB-65960</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>65960</b>	RunNo: <b>86255</b>								
Prep Date: <b>3/4/2022</b>	Analysis Date: <b>3/4/2022</b>	SeqNo: <b>3041604</b> 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: <b>LCS-65960</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>65960</b>	RunNo: <b>86255</b>								
Prep Date: <b>3/4/2022</b>	Analysis Date: <b>3/4/2022</b>	SeqNo: <b>3041605</b> 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: <b>MB-65979</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>65979</b>	RunNo: <b>86285</b>								
Prep Date: <b>3/7/2022</b>	Analysis Date: <b>3/7/2022</b>	SeqNo: <b>3043080</b> 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: <b>LCS-65979</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>65979</b>	RunNo: <b>86285</b>								
Prep Date: <b>3/7/2022</b>	Analysis Date: <b>3/7/2022</b>	SeqNo: <b>3043081</b> 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: <b>MB-65998</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>65998</b>	RunNo: <b>86300</b>								
Prep Date: <b>3/7/2022</b>	Analysis Date: <b>3/7/2022</b>	SeqNo: <b>3043174</b> 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: <b>LCS-65998</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>65998</b>	RunNo: <b>86300</b>								
Prep Date: <b>3/7/2022</b>	Analysis Date: <b>3/7/2022</b>	SeqNo: <b>3043175</b> 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	93.5	90	110			

### Qualifiers:

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2203002

09-Mar-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Fed 9

Sample ID: <b>LCS-65910</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>65910</b>			RunNo: <b>86217</b>						
Prep Date: <b>3/2/2022</b>	Analysis Date: <b>3/3/2022</b>			SeqNo: <b>3039861</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.2	68.9	135			
Surr: DNOP	4.2		5.000		83.1	51.1	141			

Sample ID: <b>MB-65910</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>65910</b>			RunNo: <b>86217</b>						
Prep Date: <b>3/2/2022</b>	Analysis Date: <b>3/3/2022</b>			SeqNo: <b>3039864</b>		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)	ND	50								
Surr: DNOP	9.0		10.00		90.2	51.1	141			

Sample ID: <b>LCS-65926</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>65926</b>			RunNo: <b>86243</b>						
Prep Date: <b>3/3/2022</b>	Analysis Date: <b>3/4/2022</b>			SeqNo: <b>3040887</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.0	68.9	135			
Surr: DNOP	4.1		5.000		82.7	51.1	141			

Sample ID: <b>MB-65926</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>65926</b>			RunNo: <b>86243</b>						
Prep Date: <b>3/3/2022</b>	Analysis Date: <b>3/4/2022</b>			SeqNo: <b>3040889</b>		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)	ND	50								
Surr: DNOP	8.8		10.00		88.4	51.1	141			

Sample ID: <b>2203002-015AMS</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>BH22-05 4'</b>	Batch ID: <b>65926</b>			RunNo: <b>86243</b>						
Prep Date: <b>3/3/2022</b>	Analysis Date: <b>3/4/2022</b>			SeqNo: <b>3041572</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.5	47.30	0	95.0	39.3	155			
Surr: DNOP	3.5		4.730		74.3	51.1	141			

## Qualifiers:

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



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2203002

09-Mar-22

Client: Vertex Resources Services, Inc.  
Project: SDE 31 Fed 9

Sample ID: 2203002-015AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: BH22-05 4'		Batch ID: 65926		RunNo: 86243						
Prep Date: 3/3/2022		Analysis Date: 3/4/2022		SeqNo: 3041573		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.5	47.26	0	93.0	39.3	155	2.21	23.4	
Surr: DNOP	3.4		4.726		72.2	51.1	141	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 Quantitative 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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2203002

09-Mar-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Fed 9

Sample ID: <b>lcs-65871</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>65871</b>			RunNo: <b>86209</b>						
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>			SeqNo: <b>3038584</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	78.6	131			
Surr: BFB	1200		1000		116	70	130			

Sample ID: <b>mb-65871</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>65871</b>			RunNo: <b>86209</b>						
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>			SeqNo: <b>3038585</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		103	70	130			

Sample ID: <b>lcs-65876</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>65876</b>			RunNo: <b>86209</b>						
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>			SeqNo: <b>3038608</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	78.6	131			
Surr: BFB	1100		1000		114	70	130			

Sample ID: <b>mb-65876</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>65876</b>			RunNo: <b>86209</b>						
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>			SeqNo: <b>3038609</b>		Units: <b>mg/Kg</b>				
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	70	130			

Sample ID: <b>2203002-011ams</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>BH22-04 2'</b>	Batch ID: <b>65876</b>			RunNo: <b>86209</b>						
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>			SeqNo: <b>3038611</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.7	23.26	0	118	70	130			
Surr: BFB	1100		930.2		120	70	130			

Sample ID: <b>2203002-011amsd</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>BH22-04 2'</b>	Batch ID: <b>65876</b>			RunNo: <b>86209</b>						
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>			SeqNo: <b>3038612</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

### Qualifiers:

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



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2203002

09-Mar-22

Client: Vertex Resources Services, Inc.  
Project: SDE 31 Fed 9

Sample ID: 2203002-011amsd		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: BH22-04 2'		Batch ID: 65876		RunNo: 86209						
Prep Date: 3/1/2022		Analysis Date: 3/2/2022		SeqNo: 3038612		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.6	23.19	0	117	70	130	0.856	20	
Surr: BFB	1100		927.6		120	70	130	0	0	

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative 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



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

WO#: 2203002

09-Mar-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Fed 9

Sample ID: <b>lcs-65871</b>	SampType: <b>LCS</b>				TestCode: <b>EPA Method 8021B: Volatiles</b>					
Client ID: <b>LCSS</b>	Batch ID: <b>65871</b>				RunNo: <b>86209</b>					
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>				SeqNo: <b>3038637</b>	Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.3	80	120			
Toluene	0.92	0.050	1.000	0	91.9	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-Bromofluorobenzene	0.92		1.000		91.6	70	130			

Sample ID: <b>mb-65871</b>	SampType: <b>MBLK</b>				TestCode: <b>EPA Method 8021B: Volatiles</b>					
Client ID: <b>PBS</b>	Batch ID: <b>65871</b>				RunNo: <b>86209</b>					
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>				SeqNo: <b>3038638</b>	Units: <b>mg/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	0.92		1.000		91.5	70	130			

Sample ID: <b>lcs-65876</b>	SampType: <b>LCS</b>				TestCode: <b>EPA Method 8021B: Volatiles</b>					
Client ID: <b>LCSS</b>	Batch ID: <b>65876</b>				RunNo: <b>86209</b>					
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>				SeqNo: <b>3038661</b>	Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.5	80	120			
Toluene	0.96	0.050	1.000	0	96.3	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.5	80	120			
Surr: 4-Bromofluorobenzene	0.88		1.000		88.5	70	130			

Sample ID: <b>mb-65876</b>	SampType: <b>MBLK</b>				TestCode: <b>EPA Method 8021B: Volatiles</b>					
Client ID: <b>PBS</b>	Batch ID: <b>65876</b>				RunNo: <b>86209</b>					
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>				SeqNo: <b>3038662</b>	Units: <b>mg/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	0.89		1.000		88.8	70	130			

**Qualifiers:**

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2203002

09-Mar-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Fed 9

Sample ID: <b>2203002-012ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>BH22-04 4'</b>	Batch ID: <b>65876</b>	RunNo: <b>86209</b>								
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>	SeqNo: <b>3038665</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.023	0.9381	0	102	80	120			
Toluene	0.99	0.047	0.9381	0	106	80	120			
Ethylbenzene	1.0	0.047	0.9381	0	108	80	120			
Xylenes, Total	3.0	0.094	2.814	0	108	80	120			
Surr: 4-Bromofluorobenzene	0.85		0.9381		90.4	70	130			

Sample ID: <b>2203002-012amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>BH22-04 4'</b>	Batch ID: <b>65876</b>	RunNo: <b>86209</b>								
Prep Date: <b>3/1/2022</b>	Analysis Date: <b>3/2/2022</b>	SeqNo: <b>3038666</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.024	0.9461	0	100	80	120	0.578	20	
Toluene	0.98	0.047	0.9461	0	103	80	120	1.61	20	
Ethylbenzene	0.99	0.047	0.9461	0	105	80	120	1.96	20	
Xylenes, Total	3.0	0.095	2.838	0	105	80	120	2.03	20	
Surr: 4-Bromofluorobenzene	0.84		0.9461		89.3	70	130	0	0	

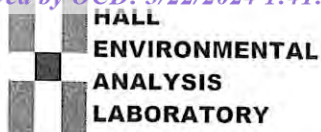
**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative 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 29 of 29





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

## Sample Log-In Check List

Client Name: Vertex Resources  
Services, Inc.

Work Order Number: 2203002

RcptNo: 1

Received By: Tracy Casarrubias 3/1/2022 7:50:00 AM

Completed By: Tracy Casarrubias 3/1/2022 8:16:18 AM

Reviewed By: JA 3/1/22

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

# of preserved  
bottles checked  
for pH:

( $<2$  or  $>12$  unless noted)

Adjusted?

Checked by: KPG 3/1/22

Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.4	Good	Yes			







## Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC☐ Other☐ EDD (Type)Sampler: JCOn Ice: ☒ Yes ☐ No# of Coolers: 1Cooler Temp (including CF): 55-0.1 = 5.4 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
2-24-22	13:00	S011	BH22-05 0-6"	1 Jar		013
	13:15		BH22-05 2'			014
	13:30		BH22-05 4'			015
	13:45		BH22-06 0-6"			016
	14:00		BH22-06 2'			017
	14:15		BH22-06 4'			018
	14:30		BH22-07 0-6"			019
	14:45		BH22-07 2'			020
	15:00		BH22-07 4'			021
	15:15		BH22-08 0-6"			022

Date:	Time:	Relinquished by:
2/20/22	1:00	<u>[Signature]</u>
Date:	Time:	Relinquished by:
2/20/22	1:00	<u>[Signature]</u>

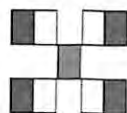
Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name:

SDE 31 Fed 9

Project #:

Project Manager: Brandon Schafer  
B.Schafer@vertex.caHALL ENVIRONMENTAL  
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

TPH:8015D(GRO / DRO / MRO)	<input checked="" type="checkbox"/>
8081 Pesticides/8082 PCB's	
EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS	
RCRA 8 Metals	
Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	<input checked="" type="checkbox"/>
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	

Remarks:

Direct Bill Devon Energy  
cc Brandon Schafer





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

September 19, 2022

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: SDE 31 Federal 009

OrderNo.: 2209219

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 50 sample(s) on 9/7/2022 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-12 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 9:20:00 AM

Lab ID: 2209219-001

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/9/2022 10:04:00 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/9/2022 10:04:00 AM
Surr: DNOP	90.6	21-129		%Rec	1	9/9/2022 10:04:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	8600	300		mg/Kg	100	9/14/2022 7:36:13 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.12		mg/Kg	5	9/10/2022 12:44:03 AM
Toluene	ND	0.24		mg/Kg	5	9/10/2022 12:44:03 AM
Ethylbenzene	ND	0.24		mg/Kg	5	9/10/2022 12:44:03 AM
Xylenes, Total	ND	0.48		mg/Kg	5	9/10/2022 12:44:03 AM
Surr: 1,2-Dichloroethane-d4	99.8	70-130		%Rec	5	9/10/2022 12:44:03 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	5	9/10/2022 12:44:03 AM
Surr: Dibromofluoromethane	102	70-130		%Rec	5	9/10/2022 12:44:03 AM
Surr: Toluene-d8	97.8	70-130		%Rec	5	9/10/2022 12:44:03 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	9/10/2022 12:44:03 AM
Surr: BFB	97.3	70-130		%Rec	5	9/10/2022 12:44:03 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-12 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 9:55:00 AM

Lab ID: 2209219-002

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/9/2022 10:14:38 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/9/2022 10:14:38 AM
Surr: DNOP	92.0	21-129		%Rec	1	9/9/2022 10:14:38 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	7100	300		mg/Kg	100	9/14/2022 7:48:38 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 1:10:57 AM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 1:10:57 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 1:10:57 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/10/2022 1:10:57 AM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	9/10/2022 1:10:57 AM
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	9/10/2022 1:10:57 AM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/10/2022 1:10:57 AM
Surr: Toluene-d8	101	70-130		%Rec	1	9/10/2022 1:10:57 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 1:10:57 AM
Surr: BFB	98.1	70-130		%Rec	1	9/10/2022 1:10:57 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-12 2.5'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 10:00:00 AM

Lab ID: 2209219-003

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/9/2022 10:25:13 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/9/2022 10:25:13 AM
Surr: DNOP	92.5	21-129		%Rec	1	9/9/2022 10:25:13 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	6100	300		mg/Kg	100	9/14/2022 8:01:03 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.12		mg/Kg	5	9/10/2022 1:37:52 AM
Toluene	ND	0.23		mg/Kg	5	9/10/2022 1:37:52 AM
Ethylbenzene	ND	0.23		mg/Kg	5	9/10/2022 1:37:52 AM
Xylenes, Total	ND	0.47		mg/Kg	5	9/10/2022 1:37:52 AM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	5	9/10/2022 1:37:52 AM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	5	9/10/2022 1:37:52 AM
Surr: Dibromofluoromethane	99.3	70-130		%Rec	5	9/10/2022 1:37:52 AM
Surr: Toluene-d8	94.1	70-130		%Rec	5	9/10/2022 1:37:52 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	23		mg/Kg	5	9/10/2022 1:37:52 AM
Surr: BFB	90.0	70-130		%Rec	5	9/10/2022 1:37:52 AM

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

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

Page 3 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-13 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 10:35:00 AM

Lab ID: 2209219-004

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	5400	290		mg/Kg	20	9/8/2022 9:02:01 PM
Motor Oil Range Organics (MRO)	2900	980		mg/Kg	20	9/8/2022 9:02:01 PM
Surr: DNOP	0	21-129	S	%Rec	20	9/8/2022 9:02:01 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	10000	600		mg/Kg	200	9/14/2022 8:13:27 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.12		mg/Kg	5	9/10/2022 2:04:47 AM
Toluene	ND	0.24		mg/Kg	5	9/10/2022 2:04:47 AM
Ethylbenzene	ND	0.24		mg/Kg	5	9/10/2022 2:04:47 AM
Xylenes, Total	ND	0.48		mg/Kg	5	9/10/2022 2:04:47 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	5	9/10/2022 2:04:47 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	5	9/10/2022 2:04:47 AM
Surr: Dibromofluoromethane	98.4	70-130		%Rec	5	9/10/2022 2:04:47 AM
Surr: Toluene-d8	97.5	70-130		%Rec	5	9/10/2022 2:04:47 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	35	24		mg/Kg	5	9/10/2022 2:04:47 AM
Surr: BFB	99.7	70-130		%Rec	5	9/10/2022 2:04:47 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-13 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 10:45:00 AM

Lab ID: 2209219-005

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 9:23:28 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/8/2022 9:23:28 PM
Surr: DNOP	93.6	21-129		%Rec	1	9/8/2022 9:23:28 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	5100	150		mg/Kg	50	9/14/2022 8:25:52 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	9/10/2022 3:25:41 AM
Toluene	ND	0.050		mg/Kg	1	9/10/2022 3:25:41 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/10/2022 3:25:41 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/10/2022 3:25:41 AM
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%Rec	1	9/10/2022 3:25:41 AM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	9/10/2022 3:25:41 AM
Surr: Dibromofluoromethane	95.2	70-130		%Rec	1	9/10/2022 3:25:41 AM
Surr: Toluene-d8	105	70-130		%Rec	1	9/10/2022 3:25:41 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/10/2022 3:25:41 AM
Surr: BFB	101	70-130		%Rec	1	9/10/2022 3:25:41 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-13 2.5'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 11:00:00 AM

Lab ID: 2209219-006

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	180	14		mg/Kg	1	9/10/2022 2:46:20 AM
Motor Oil Range Organics (MRO)	130	47		mg/Kg	1	9/10/2022 2:46:20 AM
Surr: DNOP	81.8	21-129		%Rec	1	9/10/2022 2:46:20 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	7200	300		mg/Kg	100	9/14/2022 8:38:17 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 4:46:42 AM
Toluene	ND	0.049		mg/Kg	1	9/10/2022 4:46:42 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/10/2022 4:46:42 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/10/2022 4:46:42 AM
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%Rec	1	9/10/2022 4:46:42 AM
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	9/10/2022 4:46:42 AM
Surr: Dibromofluoromethane	97.2	70-130		%Rec	1	9/10/2022 4:46:42 AM
Surr: Toluene-d8	103	70-130		%Rec	1	9/10/2022 4:46:42 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/10/2022 4:46:42 AM
Surr: BFB	101	70-130		%Rec	1	9/10/2022 4:46:42 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-14 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 11:00:00 AM

Lab ID: 2209219-007

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 9:44:56 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/8/2022 9:44:56 PM
Surr: DNOP	96.6	21-129		%Rec	1	9/8/2022 9:44:56 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	77	60		mg/Kg	20	9/13/2022 1:51:56 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	9/10/2022 5:13:36 AM
Toluene	ND	0.050		mg/Kg	1	9/10/2022 5:13:36 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/10/2022 5:13:36 AM
Xylenes, Total	ND	0.10		mg/Kg	1	9/10/2022 5:13:36 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	9/10/2022 5:13:36 AM
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	9/10/2022 5:13:36 AM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/10/2022 5:13:36 AM
Surr: Toluene-d8	101	70-130		%Rec	1	9/10/2022 5:13:36 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/10/2022 5:13:36 AM
Surr: BFB	95.0	70-130		%Rec	1	9/10/2022 5:13:36 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-14 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 11:25:00 AM

Lab ID: 2209219-008

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 9:55:41 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/8/2022 9:55:41 PM
Surr: DNOP	94.4	21-129		%Rec	1	9/8/2022 9:55:41 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	880	61		mg/Kg	20	9/13/2022 2:04:21 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 5:40:32 AM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 5:40:32 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 5:40:32 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/10/2022 5:40:32 AM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/10/2022 5:40:32 AM
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	1	9/10/2022 5:40:32 AM
Surr: Dibromofluoromethane	98.9	70-130		%Rec	1	9/10/2022 5:40:32 AM
Surr: Toluene-d8	100	70-130		%Rec	1	9/10/2022 5:40:32 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 5:40:32 AM
Surr: BFB	94.9	70-130		%Rec	1	9/10/2022 5:40:32 AM

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

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

Page 8 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-15 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 1:40:00 PM

Lab ID: 2209219-009

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 10:06:24 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/8/2022 10:06:24 PM
Surr: DNOP	95.4	21-129		%Rec	1	9/8/2022 10:06:24 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	9/13/2022 2:16:46 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 6:07:34 AM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 6:07:34 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 6:07:34 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/10/2022 6:07:34 AM
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%Rec	1	9/10/2022 6:07:34 AM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	9/10/2022 6:07:34 AM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/10/2022 6:07:34 AM
Surr: Toluene-d8	101	70-130		%Rec	1	9/10/2022 6:07:34 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 6:07:34 AM
Surr: BFB	93.8	70-130		%Rec	1	9/10/2022 6:07:34 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-15 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 1:45:00 PM

Lab ID: 2209219-010

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/13/2022 7:14:19 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/13/2022 7:14:19 PM
Surr: DNOP	78.7	21-129		%Rec	1	9/13/2022 7:14:19 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	1700	60		mg/Kg	20	9/13/2022 2:29:10 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	9/10/2022 6:34:28 AM
Toluene	ND	0.050		mg/Kg	1	9/10/2022 6:34:28 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/10/2022 6:34:28 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/10/2022 6:34:28 AM
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	9/10/2022 6:34:28 AM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	9/10/2022 6:34:28 AM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	9/10/2022 6:34:28 AM
Surr: Toluene-d8	101	70-130		%Rec	1	9/10/2022 6:34:28 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/10/2022 6:34:28 AM
Surr: BFB	94.6	70-130		%Rec	1	9/10/2022 6:34:28 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-15 3'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 1:50:00 PM

Lab ID: 2209219-011

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 10:27:54 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/8/2022 10:27:54 PM
Surr: DNOP	99.1	21-129		%Rec	1	9/8/2022 10:27:54 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	460	61		mg/Kg	20	9/13/2022 2:41:35 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 7:01:32 AM
Toluene	ND	0.047		mg/Kg	1	9/10/2022 7:01:32 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/10/2022 7:01:32 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/10/2022 7:01:32 AM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/10/2022 7:01:32 AM
Surr: 4-Bromofluorobenzene	91.3	70-130		%Rec	1	9/10/2022 7:01:32 AM
Surr: Dibromofluoromethane	100	70-130		%Rec	1	9/10/2022 7:01:32 AM
Surr: Toluene-d8	101	70-130		%Rec	1	9/10/2022 7:01:32 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/10/2022 7:01:32 AM
Surr: BFB	99.6	70-130		%Rec	1	9/10/2022 7:01:32 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-16 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 1:55:00 PM

Lab ID: 2209219-012

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 10:49:28 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/8/2022 10:49:28 PM
Surr: DNOP	102	21-129		%Rec	1	9/8/2022 10:49:28 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	9/13/2022 2:54:00 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 7:28:29 AM
Toluene	ND	0.049		mg/Kg	1	9/10/2022 7:28:29 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/10/2022 7:28:29 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/10/2022 7:28:29 AM
Surr: 1,2-Dichloroethane-d4	97.9	70-130		%Rec	1	9/10/2022 7:28:29 AM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	9/10/2022 7:28:29 AM
Surr: Dibromofluoromethane	96.7	70-130		%Rec	1	9/10/2022 7:28:29 AM
Surr: Toluene-d8	101	70-130		%Rec	1	9/10/2022 7:28:29 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/10/2022 7:28:29 AM
Surr: BFB	101	70-130		%Rec	1	9/10/2022 7:28:29 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-16 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 2:00:00 PM

Lab ID: 2209219-013

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 11:00:22 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/8/2022 11:00:22 PM
Surr: DNOP	93.2	21-129		%Rec	1	9/8/2022 11:00:22 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	4800	300		mg/Kg	100	9/14/2022 8:50:42 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.12		mg/Kg	5	9/10/2022 7:55:24 AM
Toluene	ND	0.24		mg/Kg	5	9/10/2022 7:55:24 AM
Ethylbenzene	ND	0.24		mg/Kg	5	9/10/2022 7:55:24 AM
Xylenes, Total	ND	0.49		mg/Kg	5	9/10/2022 7:55:24 AM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	5	9/10/2022 7:55:24 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	5	9/10/2022 7:55:24 AM
Surr: Dibromofluoromethane	102	70-130		%Rec	5	9/10/2022 7:55:24 AM
Surr: Toluene-d8	101	70-130		%Rec	5	9/10/2022 7:55:24 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	9/10/2022 7:55:24 AM
Surr: BFB	94.6	70-130		%Rec	5	9/10/2022 7:55:24 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-16 3'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 2:10:00 PM

Lab ID: 2209219-014

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 11:11:20 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/8/2022 11:11:20 PM
Surr: DNOP	95.7	21-129		%Rec	1	9/8/2022 11:11:20 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	1900	60		mg/Kg	20	9/13/2022 10:16:52 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 8:22:26 AM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 8:22:26 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 8:22:26 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/10/2022 8:22:26 AM
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	9/10/2022 8:22:26 AM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	9/10/2022 8:22:26 AM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/10/2022 8:22:26 AM
Surr: Toluene-d8	101	70-130		%Rec	1	9/10/2022 8:22:26 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 8:22:26 AM
Surr: BFB	101	70-130		%Rec	1	9/10/2022 8:22:26 AM

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

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

Page 14 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-17 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 2:15:00 PM

Lab ID: 2209219-015

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 11:22:21 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/8/2022 11:22:21 PM
Surr: DNOP	94.1	21-129		%Rec	1	9/8/2022 11:22:21 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	9/13/2022 10:29:16 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 8:49:23 AM
Toluene	ND	0.047		mg/Kg	1	9/10/2022 8:49:23 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/10/2022 8:49:23 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/10/2022 8:49:23 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/10/2022 8:49:23 AM
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	9/10/2022 8:49:23 AM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	9/10/2022 8:49:23 AM
Surr: Toluene-d8	96.7	70-130		%Rec	1	9/10/2022 8:49:23 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/10/2022 8:49:23 AM
Surr: BFB	93.5	70-130		%Rec	1	9/10/2022 8:49:23 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-17 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 2:20:00 PM

Lab ID: 2209219-016

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 11:33:23 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/8/2022 11:33:23 PM
Surr: DNOP	94.5	21-129		%Rec	1	9/8/2022 11:33:23 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	2500	150		mg/Kg	50	9/14/2022 9:03:07 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 9:16:21 AM
Toluene	ND	0.049		mg/Kg	1	9/10/2022 9:16:21 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/10/2022 9:16:21 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/10/2022 9:16:21 AM
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	9/10/2022 9:16:21 AM
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	9/10/2022 9:16:21 AM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	9/10/2022 9:16:21 AM
Surr: Toluene-d8	99.6	70-130		%Rec	1	9/10/2022 9:16:21 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/10/2022 9:16:21 AM
Surr: BFB	93.6	70-130		%Rec	1	9/10/2022 9:16:21 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-17 4'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 2:35:00 PM

Lab ID: 2209219-017

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 11:44:27 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/8/2022 11:44:27 PM
Surr: DNOP	99.2	21-129		%Rec	1	9/8/2022 11:44:27 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	2100	150		mg/Kg	50	9/14/2022 9:15:31 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	9/10/2022 9:43:28 AM
Toluene	ND	0.049		mg/Kg	1	9/10/2022 9:43:28 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/10/2022 9:43:28 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/10/2022 9:43:28 AM
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	9/10/2022 9:43:28 AM
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	9/10/2022 9:43:28 AM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	9/10/2022 9:43:28 AM
Surr: Toluene-d8	104	70-130		%Rec	1	9/10/2022 9:43:28 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/10/2022 9:43:28 AM
Surr: BFB	95.2	70-130		%Rec	1	9/10/2022 9:43:28 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-18 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 2:40:00 PM

Lab ID: 2209219-018

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 11:55:31 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/8/2022 11:55:31 PM
Surr: DNOP	102	21-129		%Rec	1	9/8/2022 11:55:31 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	2400	60		mg/Kg	20	9/13/2022 11:31:18 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 12:52:24 PM
Toluene	ND	0.049		mg/Kg	1	9/10/2022 12:52:24 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/10/2022 12:52:24 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/10/2022 12:52:24 PM
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	9/10/2022 12:52:24 PM
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	9/10/2022 12:52:24 PM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/10/2022 12:52:24 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/10/2022 12:52:24 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/10/2022 12:52:24 PM
Surr: BFB	94.4	70-130		%Rec	1	9/10/2022 12:52:24 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-18 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 2:55:00 PM

Lab ID: 2209219-019

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/9/2022 12:06:33 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/9/2022 12:06:33 AM
Surr: DNOP	94.0	21-129		%Rec	1	9/9/2022 12:06:33 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	8800	600		mg/Kg	200	9/14/2022 9:27:56 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 1:19:26 PM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 1:19:26 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 1:19:26 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/10/2022 1:19:26 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/10/2022 1:19:26 PM
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	9/10/2022 1:19:26 PM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/10/2022 1:19:26 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/10/2022 1:19:26 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 1:19:26 PM
Surr: BFB	100	70-130		%Rec	1	9/10/2022 1:19:26 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-18 3'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 3:15:00 PM

Lab ID: 2209219-020

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/9/2022 12:17:49 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/9/2022 12:17:49 AM
Surr: DNOP	95.7	21-129		%Rec	1	9/9/2022 12:17:49 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	7400	300		mg/Kg	100	9/14/2022 10:05:12 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 1:46:30 PM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 1:46:30 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 1:46:30 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/10/2022 1:46:30 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	9/10/2022 1:46:30 PM
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	1	9/10/2022 1:46:30 PM
Surr: Dibromofluoromethane	100	70-130		%Rec	1	9/10/2022 1:46:30 PM
Surr: Toluene-d8	103	70-130		%Rec	1	9/10/2022 1:46:30 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 1:46:30 PM
Surr: BFB	102	70-130		%Rec	1	9/10/2022 1:46:30 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-19 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 3:20:00 PM

Lab ID: 2209219-021

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/9/2022 12:28:58 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/9/2022 12:28:58 AM
Surr: DNOP	95.4	21-129		%Rec	1	9/9/2022 12:28:58 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	9/13/2022 12:33:20 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 2:13:35 PM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 2:13:35 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 2:13:35 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/10/2022 2:13:35 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	9/10/2022 2:13:35 PM
Surr: 4-Bromofluorobenzene	93.3	70-130		%Rec	1	9/10/2022 2:13:35 PM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/10/2022 2:13:35 PM
Surr: Toluene-d8	106	70-130		%Rec	1	9/10/2022 2:13:35 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 2:13:35 PM
Surr: BFB	97.3	70-130		%Rec	1	9/10/2022 2:13:35 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-19 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 3:40:00 PM

Lab ID: 2209219-022

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/9/2022 12:40:09 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/9/2022 12:40:09 AM
Surr: DNOP	127	21-129		%Rec	1	9/9/2022 12:40:09 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	180	60		mg/Kg	20	9/13/2022 12:45:44 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.025		mg/Kg	1	9/10/2022 2:40:41 PM
Toluene	ND	0.050		mg/Kg	1	9/10/2022 2:40:41 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/10/2022 2:40:41 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/10/2022 2:40:41 PM
Surr: 1,2-Dichloroethane-d4	94.3	70-130		%Rec	1	9/10/2022 2:40:41 PM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	9/10/2022 2:40:41 PM
Surr: Dibromofluoromethane	98.4	70-130		%Rec	1	9/10/2022 2:40:41 PM
Surr: Toluene-d8	106	70-130		%Rec	1	9/10/2022 2:40:41 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/10/2022 2:40:41 PM
Surr: BFB	101	70-130		%Rec	1	9/10/2022 2:40:41 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-19 4'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 3:45:00 PM

Lab ID: 2209219-023

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/9/2022 12:51:21 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/9/2022 12:51:21 AM
Surr: DNOP	120	21-129		%Rec	1	9/9/2022 12:51:21 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	330	60		mg/Kg	20	9/13/2022 12:58:08 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>BRM</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 3:07:48 PM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 3:07:48 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 3:07:48 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/10/2022 3:07:48 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	9/10/2022 3:07:48 PM
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	9/10/2022 3:07:48 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	9/10/2022 3:07:48 PM
Surr: Toluene-d8	107	70-130		%Rec	1	9/10/2022 3:07:48 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>BRM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 3:07:48 PM
Surr: BFB	94.5	70-130		%Rec	1	9/10/2022 3:07:48 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-20 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 3:30:00 PM

Lab ID: 2209219-024

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 11:23:22 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/8/2022 11:23:22 AM
Surr: DNOP	88.0	21-129		%Rec	1	9/8/2022 11:23:22 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	96	60		mg/Kg	20	9/13/2022 1:10:33 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/9/2022 1:05:01 PM
Toluene	ND	0.048		mg/Kg	1	9/9/2022 1:05:01 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/9/2022 1:05:01 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/9/2022 1:05:01 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	9/9/2022 1:05:01 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	9/9/2022 1:05:01 PM
Surr: Dibromofluoromethane	116	70-130		%Rec	1	9/9/2022 1:05:01 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/9/2022 1:05:01 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/9/2022 1:05:01 PM
Surr: BFB	114	70-130		%Rec	1	9/9/2022 1:05:01 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-01 3'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 11:40:00 AM

Lab ID: 2209219-025

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 12:34:52 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/8/2022 12:34:52 PM
Surr: DNOP	88.0	21-129		%Rec	1	9/8/2022 12:34:52 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	5300	300		mg/Kg	100	9/14/2022 10:17:37 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/9/2022 2:30:48 PM
Toluene	ND	0.049		mg/Kg	1	9/9/2022 2:30:48 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/9/2022 2:30:48 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/9/2022 2:30:48 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	9/9/2022 2:30:48 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	9/9/2022 2:30:48 PM
Surr: Dibromofluoromethane	116	70-130		%Rec	1	9/9/2022 2:30:48 PM
Surr: Toluene-d8	105	70-130		%Rec	1	9/9/2022 2:30:48 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/9/2022 2:30:48 PM
Surr: BFB	119	70-130		%Rec	1	9/9/2022 2:30:48 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-08 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 8:55:00 AM

Lab ID: 2209219-026

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 12:58:39 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/8/2022 12:58:39 PM
Surr: DNOP	112	21-129		%Rec	1	9/8/2022 12:58:39 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	350	60		mg/Kg	20	9/13/2022 1:35:22 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/9/2022 3:56:37 PM
Toluene	ND	0.048		mg/Kg	1	9/9/2022 3:56:37 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/9/2022 3:56:37 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/9/2022 3:56:37 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/9/2022 3:56:37 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	9/9/2022 3:56:37 PM
Surr: Dibromofluoromethane	122	70-130		%Rec	1	9/9/2022 3:56:37 PM
Surr: Toluene-d8	104	70-130		%Rec	1	9/9/2022 3:56:37 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/9/2022 3:56:37 PM
Surr: BFB	119	70-130		%Rec	1	9/9/2022 3:56:37 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-08 2.5'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 9:20:00 AM

Lab ID: 2209219-027

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 1:22:25 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/8/2022 1:22:25 PM
Surr: DNOP	123	21-129		%Rec	1	9/8/2022 1:22:25 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	750	60		mg/Kg	20	9/13/2022 2:37:24 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.025		mg/Kg	1	9/9/2022 4:25:10 PM
Toluene	ND	0.050		mg/Kg	1	9/9/2022 4:25:10 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/9/2022 4:25:10 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/9/2022 4:25:10 PM
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	1	9/9/2022 4:25:10 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	9/9/2022 4:25:10 PM
Surr: Dibromofluoromethane	114	70-130		%Rec	1	9/9/2022 4:25:10 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/9/2022 4:25:10 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/9/2022 4:25:10 PM
Surr: BFB	118	70-130		%Rec	1	9/9/2022 4:25:10 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-09 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 10:25:00 AM

Lab ID: 2209219-028

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 1:46:12 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/8/2022 1:46:12 PM
Surr: DNOP	84.9	21-129		%Rec	1	9/8/2022 1:46:12 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	78	59		mg/Kg	20	9/13/2022 2:49:48 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.023		mg/Kg	1	9/9/2022 4:53:43 PM
Toluene	ND	0.047		mg/Kg	1	9/9/2022 4:53:43 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/9/2022 4:53:43 PM
Xylenes, Total	ND	0.093		mg/Kg	1	9/9/2022 4:53:43 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/9/2022 4:53:43 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	9/9/2022 4:53:43 PM
Surr: Dibromofluoromethane	116	70-130		%Rec	1	9/9/2022 4:53:43 PM
Surr: Toluene-d8	101	70-130		%Rec	1	9/9/2022 4:53:43 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/9/2022 4:53:43 PM
Surr: BFB	118	70-130		%Rec	1	9/9/2022 4:53:43 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-09 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 10:35:00 AM

Lab ID: 2209219-029

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 2:57:30 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/8/2022 2:57:30 PM
Surr: DNOP	90.7	21-129		%Rec	1	9/8/2022 2:57:30 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	4500	150		mg/Kg	50	9/14/2022 10:30:01 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/9/2022 5:22:17 PM
Toluene	ND	0.047		mg/Kg	1	9/9/2022 5:22:17 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/9/2022 5:22:17 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/9/2022 5:22:17 PM
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%Rec	1	9/9/2022 5:22:17 PM
Surr: 4-Bromofluorobenzene	98.3	70-130		%Rec	1	9/9/2022 5:22:17 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	9/9/2022 5:22:17 PM
Surr: Toluene-d8	101	70-130		%Rec	1	9/9/2022 5:22:17 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/9/2022 5:22:17 PM
Surr: BFB	116	70-130		%Rec	1	9/9/2022 5:22:17 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-09 3.5'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 11:00:00 AM

Lab ID: 2209219-030

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 3:21:14 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/8/2022 3:21:14 PM
Surr: DNOP	92.6	21-129		%Rec	1	9/8/2022 3:21:14 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	1100	60		mg/Kg	20	9/13/2022 3:14:36 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/9/2022 5:50:52 PM
Toluene	ND	0.049		mg/Kg	1	9/9/2022 5:50:52 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/9/2022 5:50:52 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/9/2022 5:50:52 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	9/9/2022 5:50:52 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	9/9/2022 5:50:52 PM
Surr: Dibromofluoromethane	115	70-130		%Rec	1	9/9/2022 5:50:52 PM
Surr: Toluene-d8	103	70-130		%Rec	1	9/9/2022 5:50:52 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/9/2022 5:50:52 PM
Surr: BFB	118	70-130		%Rec	1	9/9/2022 5:50:52 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-10 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 11:10:00 AM

Lab ID: 2209219-031

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 4:08:46 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/8/2022 4:08:46 PM
Surr: DNOP	91.9	21-129		%Rec	1	9/8/2022 4:08:46 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	9/13/2022 3:27:00 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/9/2022 6:19:26 PM
Toluene	ND	0.048		mg/Kg	1	9/9/2022 6:19:26 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/9/2022 6:19:26 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/9/2022 6:19:26 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	9/9/2022 6:19:26 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	9/9/2022 6:19:26 PM
Surr: Dibromofluoromethane	119	70-130		%Rec	1	9/9/2022 6:19:26 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/9/2022 6:19:26 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/9/2022 6:19:26 PM
Surr: BFB	117	70-130		%Rec	1	9/9/2022 6:19:26 PM

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

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

Page 31 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-10 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 11:20:00 AM

Lab ID: 2209219-032

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 4:32:35 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/8/2022 4:32:35 PM
Surr: DNOP	127	21-129		%Rec	1	9/8/2022 4:32:35 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	2300	60		mg/Kg	20	9/13/2022 3:39:25 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.023		mg/Kg	1	9/9/2022 6:47:58 PM
Toluene	ND	0.046		mg/Kg	1	9/9/2022 6:47:58 PM
Ethylbenzene	ND	0.046		mg/Kg	1	9/9/2022 6:47:58 PM
Xylenes, Total	ND	0.091		mg/Kg	1	9/9/2022 6:47:58 PM
Surr: 1,2-Dichloroethane-d4	97.7	70-130		%Rec	1	9/9/2022 6:47:58 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	9/9/2022 6:47:58 PM
Surr: Dibromofluoromethane	111	70-130		%Rec	1	9/9/2022 6:47:58 PM
Surr: Toluene-d8	101	70-130		%Rec	1	9/9/2022 6:47:58 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/9/2022 6:47:58 PM
Surr: BFB	116	70-130		%Rec	1	9/9/2022 6:47:58 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-10 2.5'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 11:25:00 AM

Lab ID: 2209219-033

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 4:56:21 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/8/2022 4:56:21 PM
Surr: DNOP	93.5	21-129		%Rec	1	9/8/2022 4:56:21 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	1900	60		mg/Kg	20	9/13/2022 4:16:39 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/9/2022 7:16:29 PM
Toluene	ND	0.047		mg/Kg	1	9/9/2022 7:16:29 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/9/2022 7:16:29 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/9/2022 7:16:29 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	9/9/2022 7:16:29 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	9/9/2022 7:16:29 PM
Surr: Dibromofluoromethane	117	70-130		%Rec	1	9/9/2022 7:16:29 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/9/2022 7:16:29 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/9/2022 7:16:29 PM
Surr: BFB	116	70-130		%Rec	1	9/9/2022 7:16:29 PM

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

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

Page 33 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-11 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 9:05:00 AM

Lab ID: 2209219-034

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 5:20:03 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/8/2022 5:20:03 PM
Surr: DNOP	94.2	21-129		%Rec	1	9/8/2022 5:20:03 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	2500	150		mg/Kg	50	9/14/2022 10:42:26 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.025		mg/Kg	1	9/9/2022 7:45:01 PM
Toluene	ND	0.049		mg/Kg	1	9/9/2022 7:45:01 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/9/2022 7:45:01 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/9/2022 7:45:01 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	9/9/2022 7:45:01 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	9/9/2022 7:45:01 PM
Surr: Dibromofluoromethane	117	70-130		%Rec	1	9/9/2022 7:45:01 PM
Surr: Toluene-d8	100	70-130		%Rec	1	9/9/2022 7:45:01 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/9/2022 7:45:01 PM
Surr: BFB	115	70-130		%Rec	1	9/9/2022 7:45:01 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-11 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 9:15:00 AM

Lab ID: 2209219-035

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 5:43:53 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/8/2022 5:43:53 PM
Surr: DNOP	91.7	21-129		%Rec	1	9/8/2022 5:43:53 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	11000	600		mg/Kg	200	9/14/2022 10:54:51 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: JR
Benzene	ND	0.024		mg/Kg	1	9/9/2022 8:13:31 PM
Toluene	ND	0.048		mg/Kg	1	9/9/2022 8:13:31 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/9/2022 8:13:31 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/9/2022 8:13:31 PM
Surr: 1,2-Dichloroethane-d4	99.9	70-130		%Rec	1	9/9/2022 8:13:31 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	9/9/2022 8:13:31 PM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	9/9/2022 8:13:31 PM
Surr: Toluene-d8	101	70-130		%Rec	1	9/9/2022 8:13:31 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: JR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/9/2022 8:13:31 PM
Surr: BFB	116	70-130		%Rec	1	9/9/2022 8:13:31 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-11 2.5'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 10:10:00 AM

Lab ID: 2209219-036

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 6:07:46 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/8/2022 6:07:46 PM
Surr: DNOP	91.8	21-129		%Rec	1	9/8/2022 6:07:46 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	7200	300		mg/Kg	100	9/14/2022 11:07:16 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: JR
Benzene	ND	0.024		mg/Kg	1	9/9/2022 8:42:00 PM
Toluene	ND	0.048		mg/Kg	1	9/9/2022 8:42:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/9/2022 8:42:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/9/2022 8:42:00 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	9/9/2022 8:42:00 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	9/9/2022 8:42:00 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	9/9/2022 8:42:00 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/9/2022 8:42:00 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: JR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/9/2022 8:42:00 PM
Surr: BFB	117	70-130		%Rec	1	9/9/2022 8:42:00 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-20 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 3:35:00 PM

Lab ID: 2209219-037

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 6:31:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/8/2022 6:31:34 PM
Surr: DNOP	99.4	21-129		%Rec	1	9/8/2022 6:31:34 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	300	60		mg/Kg	20	9/13/2022 5:31:05 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/9/2022 9:10:27 PM
Toluene	ND	0.049		mg/Kg	1	9/9/2022 9:10:27 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/9/2022 9:10:27 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/9/2022 9:10:27 PM
Surr: 1,2-Dichloroethane-d4	98.6	70-130		%Rec	1	9/9/2022 9:10:27 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	9/9/2022 9:10:27 PM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	9/9/2022 9:10:27 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/9/2022 9:10:27 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/9/2022 9:10:27 PM
Surr: BFB	116	70-130		%Rec	1	9/9/2022 9:10:27 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-20 3.5'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 3:45:00 PM

Lab ID: 2209219-038

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 6:55:20 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/8/2022 6:55:20 PM
Surr: DNOP	106	21-129		%Rec	1	9/8/2022 6:55:20 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	1500	60		mg/Kg	20	9/13/2022 5:43:29 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.025		mg/Kg	1	9/9/2022 9:38:55 PM
Toluene	ND	0.049		mg/Kg	1	9/9/2022 9:38:55 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/9/2022 9:38:55 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/9/2022 9:38:55 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/9/2022 9:38:55 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	9/9/2022 9:38:55 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	9/9/2022 9:38:55 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/9/2022 9:38:55 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/9/2022 9:38:55 PM
Surr: BFB	117	70-130		%Rec	1	9/9/2022 9:38:55 PM

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

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

Page 38 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-21 0'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 3:50:00 PM

Lab ID: 2209219-039

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 7:19:10 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/8/2022 7:19:10 PM
Surr: DNOP	97.1	21-129		%Rec	1	9/8/2022 7:19:10 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	8900	600		mg/Kg	200	9/14/2022 11:19:40 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.023		mg/Kg	1	9/10/2022 12:30:06 AM
Toluene	ND	0.047		mg/Kg	1	9/10/2022 12:30:06 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/10/2022 12:30:06 AM
Xylenes, Total	ND	0.094		mg/Kg	1	9/10/2022 12:30:06 AM
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%Rec	1	9/10/2022 12:30:06 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	9/10/2022 12:30:06 AM
Surr: Dibromofluoromethane	114	70-130		%Rec	1	9/10/2022 12:30:06 AM
Surr: Toluene-d8	99.2	70-130		%Rec	1	9/10/2022 12:30:06 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/10/2022 12:30:06 AM
Surr: BFB	116	70-130		%Rec	1	9/10/2022 12:30:06 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-21 2'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 4:00:00 PM

Lab ID: 2209219-040

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 7:42:53 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/8/2022 7:42:53 PM
Surr: DNOP	96.7	21-129		%Rec	1	9/8/2022 7:42:53 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	5300	300		mg/Kg	100	9/14/2022 11:32:05 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 12:58:38 AM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 12:58:38 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 12:58:38 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/10/2022 12:58:38 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/10/2022 12:58:38 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	9/10/2022 12:58:38 AM
Surr: Dibromofluoromethane	110	70-130		%Rec	1	9/10/2022 12:58:38 AM
Surr: Toluene-d8	101	70-130		%Rec	1	9/10/2022 12:58:38 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 12:58:38 AM
Surr: BFB	117	70-130		%Rec	1	9/10/2022 12:58:38 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-21 3'

Project: SDE 31 Federal 009

Collection Date: 9/3/2022 4:05:00 PM

Lab ID: 2209219-041

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/8/2022 8:06:39 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/8/2022 8:06:39 PM
Surr: DNOP	94.7	21-129		%Rec	1	9/8/2022 8:06:39 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	6700	300		mg/Kg	100	9/14/2022 11:44:30 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 1:27:11 AM
Toluene	ND	0.048		mg/Kg	1	9/10/2022 1:27:11 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/10/2022 1:27:11 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/10/2022 1:27:11 AM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	9/10/2022 1:27:11 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	9/10/2022 1:27:11 AM
Surr: Dibromofluoromethane	114	70-130		%Rec	1	9/10/2022 1:27:11 AM
Surr: Toluene-d8	104	70-130		%Rec	1	9/10/2022 1:27:11 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/10/2022 1:27:11 AM
Surr: BFB	120	70-130		%Rec	1	9/10/2022 1:27:11 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-22 0'

Project: SDE 31 Federal 009

Collection Date: 9/4/2022 2:20:00 PM

Lab ID: 2209219-042

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 8:30:28 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/8/2022 8:30:28 PM
Surr: DNOP	96.2	21-129		%Rec	1	9/8/2022 8:30:28 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	9/13/2022 6:57:55 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 1:55:44 AM
Toluene	ND	0.047		mg/Kg	1	9/10/2022 1:55:44 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/10/2022 1:55:44 AM
Xylenes, Total	ND	0.094		mg/Kg	1	9/10/2022 1:55:44 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	9/10/2022 1:55:44 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	9/10/2022 1:55:44 AM
Surr: Dibromofluoromethane	111	70-130		%Rec	1	9/10/2022 1:55:44 AM
Surr: Toluene-d8	102	70-130		%Rec	1	9/10/2022 1:55:44 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/10/2022 1:55:44 AM
Surr: BFB	115	70-130		%Rec	1	9/10/2022 1:55:44 AM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-22 2'

Project: SDE 31 Federal 009

Collection Date: 9/4/2022 2:30:00 PM

Lab ID: 2209219-043

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/8/2022 8:54:23 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/8/2022 8:54:23 PM
Surr: DNOP	101	21-129		%Rec	1	9/8/2022 8:54:23 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	66	60		mg/Kg	20	9/13/2022 7:35:08 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JR</b>
Benzene	ND	0.024		mg/Kg	1	9/10/2022 2:24:16 AM
Toluene	ND	0.049		mg/Kg	1	9/10/2022 2:24:16 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/10/2022 2:24:16 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/10/2022 2:24:16 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/10/2022 2:24:16 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	9/10/2022 2:24:16 AM
Surr: Dibromofluoromethane	115	70-130		%Rec	1	9/10/2022 2:24:16 AM
Surr: Toluene-d8	102	70-130		%Rec	1	9/10/2022 2:24:16 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/10/2022 2:24:16 AM
Surr: BFB	120	70-130		%Rec	1	9/10/2022 2:24:16 AM

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

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

Page 43 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-22 4'

Project: SDE 31 Federal 009

Collection Date: 9/4/2022 2:40:00 PM

Lab ID: 2209219-044

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/9/2022 10:21:31 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/9/2022 10:21:31 PM
Surr: DNOP	87.5	21-129		%Rec	1	9/9/2022 10:21:31 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/9/2022 9:20:35 PM
Surr: BFB	99.6	37.7-212		%Rec	1	9/9/2022 9:20:35 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	9/9/2022 9:20:35 PM
Toluene	ND	0.049		mg/Kg	1	9/9/2022 9:20:35 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/9/2022 9:20:35 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/9/2022 9:20:35 PM
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	1	9/9/2022 9:20:35 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	500	60		mg/Kg	20	9/13/2022 7:47:33 PM

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

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

Page 44 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-23 0'

Project: SDE 31 Federal 009

Collection Date: 9/4/2022 2:45:00 PM

Lab ID: 2209219-045

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/9/2022 10:53:57 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/9/2022 10:53:57 PM
Surr: DNOP	87.3	21-129		%Rec	1	9/9/2022 10:53:57 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/9/2022 10:30:55 PM
Surr: BFB	98.4	37.7-212		%Rec	1	9/9/2022 10:30:55 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	9/9/2022 10:30:55 PM
Toluene	ND	0.050		mg/Kg	1	9/9/2022 10:30:55 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/9/2022 10:30:55 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/9/2022 10:30:55 PM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	9/9/2022 10:30:55 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	9/13/2022 7:59:57 PM

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

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

Page 45 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-23 2'

Project: SDE 31 Federal 009

Collection Date: 9/4/2022 2:50:00 PM

Lab ID: 2209219-046

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/9/2022 11:04:52 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/9/2022 11:04:52 PM
Surr: DNOP	116	21-129		%Rec	1	9/9/2022 11:04:52 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/9/2022 11:41:15 PM
Surr: BFB	99.4	37.7-212		%Rec	1	9/9/2022 11:41:15 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	9/9/2022 11:41:15 PM
Toluene	ND	0.049		mg/Kg	1	9/9/2022 11:41:15 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/9/2022 11:41:15 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/9/2022 11:41:15 PM
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	9/9/2022 11:41:15 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	9/13/2022 8:12:22 PM

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

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

Page 46 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-23 3.5'

Project: SDE 31 Federal 009

Collection Date: 9/4/2022 2:55:00 PM

Lab ID: 2209219-047

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/9/2022 11:15:47 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/9/2022 11:15:47 PM
Surr: DNOP	88.4	21-129		%Rec	1	9/9/2022 11:15:47 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/10/2022 12:04:39 AM
Surr: BFB	96.6	37.7-212		%Rec	1	9/10/2022 12:04:39 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	9/10/2022 12:04:39 AM
Toluene	ND	0.050		mg/Kg	1	9/10/2022 12:04:39 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/10/2022 12:04:39 AM
Xylenes, Total	ND	0.10		mg/Kg	1	9/10/2022 12:04:39 AM
Surr: 4-Bromofluorobenzene	90.8	70-130		%Rec	1	9/10/2022 12:04:39 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	170	60		mg/Kg	20	9/13/2022 8:24:47 PM

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

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

Page 47 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-24 0'

Project: SDE 31 Federal 009

Collection Date: 9/4/2022 2:55:00 PM

Lab ID: 2209219-048

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/9/2022 11:26:44 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/9/2022 11:26:44 PM
Surr: DNOP	120	21-129		%Rec	1	9/9/2022 11:26:44 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/10/2022 12:28:15 AM
Surr: BFB	96.3	37.7-212		%Rec	1	9/10/2022 12:28:15 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	9/10/2022 12:28:15 AM
Toluene	ND	0.049		mg/Kg	1	9/10/2022 12:28:15 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/10/2022 12:28:15 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/10/2022 12:28:15 AM
Surr: 4-Bromofluorobenzene	91.3	70-130		%Rec	1	9/10/2022 12:28:15 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	16000	600		mg/Kg	200	9/14/2022 11:56:55 AM

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

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

Page 48 of 65



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-24 2'

Project: SDE 31 Federal 009

Collection Date: 9/4/2022 3:00:00 PM

Lab ID: 2209219-049

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/9/2022 11:37:43 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/9/2022 11:37:43 PM
Surr: DNOP	87.1	21-129		%Rec	1	9/9/2022 11:37:43 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/10/2022 12:51:37 AM
Surr: BFB	97.4	37.7-212		%Rec	1	9/10/2022 12:51:37 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	9/10/2022 12:51:37 AM
Toluene	ND	0.049		mg/Kg	1	9/10/2022 12:51:37 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/10/2022 12:51:37 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/10/2022 12:51:37 AM
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	9/10/2022 12:51:37 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	4900	150		mg/Kg	50	9/14/2022 12:34:09 PM

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

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



## Analytical Report

Lab Order 2209219

Date Reported: 9/19/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-24 4'

Project: SDE 31 Federal 009

Collection Date: 9/4/2022 3:10:00 PM

Lab ID: 2209219-050

Matrix: SOIL

Received Date: 9/7/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/9/2022 11:48:45 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/9/2022 11:48:45 PM
Surr: DNOP	89.3	21-129		%Rec	1	9/9/2022 11:48:45 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/10/2022 1:15:00 AM
Surr: BFB	98.2	37.7-212		%Rec	1	9/10/2022 1:15:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	9/10/2022 1:15:00 AM
Toluene	ND	0.049		mg/Kg	1	9/10/2022 1:15:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/10/2022 1:15:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/10/2022 1:15:00 AM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	9/10/2022 1:15:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	510	60		mg/Kg	20	9/13/2022 9:02:00 PM

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

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: <b>MB-70129</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70129</b>		RunNo: <b>91016</b>							
Prep Date: <b>9/13/2022</b>	Analysis Date: <b>9/13/2022</b>		SeqNo: <b>3254887</b>		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: <b>LCS-70129</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70129</b>		RunNo: <b>91016</b>							
Prep Date: <b>9/13/2022</b>	Analysis Date: <b>9/13/2022</b>		SeqNo: <b>3254888</b>		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	90.0	90	110			

Sample ID: <b>MB-70135</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70135</b>		RunNo: <b>91016</b>							
Prep Date: <b>9/13/2022</b>	Analysis Date: <b>9/13/2022</b>		SeqNo: <b>3254917</b>		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: <b>LCS-70135</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70135</b>		RunNo: <b>91016</b>							
Prep Date: <b>9/13/2022</b>	Analysis Date: <b>9/13/2022</b>		SeqNo: <b>3254918</b>		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	94.8	90	110			

Sample ID: <b>MB-70121</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70121</b>		RunNo: <b>90987</b>							
Prep Date: <b>9/13/2022</b>	Analysis Date: <b>9/13/2022</b>		SeqNo: <b>3255009</b>		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: <b>LCS-70121</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70121</b>		RunNo: <b>90987</b>							
Prep Date: <b>9/13/2022</b>	Analysis Date: <b>9/13/2022</b>		SeqNo: <b>3255010</b>		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	93.9	90	110			

### Qualifiers:

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

Page 51 of 65



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: MB-70126	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 70126	RunNo: 90978
Prep Date: 9/13/2022	Analysis Date: 9/13/2022	SeqNo: 3255241 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-70126	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 70126	RunNo: 90978
Prep Date: 9/13/2022	Analysis Date: 9/13/2022	SeqNo: 3255242 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 93.7 90 110

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: <b>MB-70035</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70035</b>		RunNo: <b>90889</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/8/2022</b>		SeqNo: <b>3249478</b>		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 Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		97.1	21	129			

Sample ID: <b>LCS-70021</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70021</b>		RunNo: <b>90851</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3250672</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	15	50.00	0	72.2	64.4	127			
Surr: DNOP	3.7		5.000		73.4	21	129			

Sample ID: <b>LCS-70026</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70026</b>		RunNo: <b>90851</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/8/2022</b>		SeqNo: <b>3250674</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	15	50.00	0	74.4	64.4	127			
Surr: DNOP	4.0		5.000		80.0	21	129			

Sample ID: <b>MB-70021</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70021</b>		RunNo: <b>90851</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3250681</b>		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 Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		98.6	21	129			

Sample ID: <b>MB-70026</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70026</b>		RunNo: <b>90851</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/8/2022</b>		SeqNo: <b>3250682</b>		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 Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		103	21	129			

## Qualifiers:

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: <b>LCS-70041</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70041</b>		RunNo: <b>90851</b>							
Prep Date: <b>9/8/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3251929</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	34	15	50.00	0	67.8	64.4	127			
Surr: DNOP	3.7		5.000		73.1	21	129			

Sample ID: <b>MB-70041</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70041</b>		RunNo: <b>90851</b>							
Prep Date: <b>9/8/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3251931</b>		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 Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		105	21	129			

Sample ID: <b>2209219-044AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>BH22-22 4'</b>	Batch ID: <b>70041</b>		RunNo: <b>90851</b>							
Prep Date: <b>9/8/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3252501</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	14	47.62	0	89.5	36.1	154			
Surr: DNOP	4.8		4.762		99.8	21	129			

Sample ID: <b>2209219-044AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>BH22-22 4'</b>	Batch ID: <b>70041</b>		RunNo: <b>90851</b>							
Prep Date: <b>9/8/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3252502</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	15	49.90	0	86.4	36.1	154	1.15	33.9	
Surr: DNOP	4.5		4.990		90.4	21	129	0	0	

Sample ID: <b>LCS-70082</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70082</b>		RunNo: <b>90945</b>							
Prep Date: <b>9/9/2022</b>	Analysis Date: <b>9/12/2022</b>		SeqNo: <b>3252836</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.9		5.000		78.7	21	129			

Sample ID: <b>MB-70082</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70082</b>		RunNo: <b>90945</b>							
Prep Date: <b>9/9/2022</b>	Analysis Date: <b>9/12/2022</b>		SeqNo: <b>3252837</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

## Qualifiers:

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

Page 54 of 65



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: MB-70082	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 70082	RunNo: 90945								
Prep Date: 9/9/2022	Analysis Date: 9/12/2022	SeqNo: 3252837 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.6		10.00		86.0	21	129			

Sample ID: LCS-70070	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 70070	RunNo: 90945								
Prep Date: 9/9/2022	Analysis Date: 9/13/2022	SeqNo: 3253581 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		5.000		79.7	21	129			

Sample ID: MB-70070	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 70070	RunNo: 90945								
Prep Date: 9/9/2022	Analysis Date: 9/13/2022	SeqNo: 3253585 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.6		10.00		85.7	21	129			

Sample ID: LCS-70035	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 70035	RunNo: 90889								
Prep Date: 9/7/2022	Analysis Date: 9/8/2022	SeqNo: 3255226 Units: mg/Kg								
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	4.7		5.000		94.5	21	129			

Sample ID: 2209219-024AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH22-20 0'	Batch ID: 70035	RunNo: 90889								
Prep Date: 9/7/2022	Analysis Date: 9/8/2022	SeqNo: 3255228 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	14	46.17	0	86.5	36.1	154			
Surr: DNOP	3.5		4.617		76.0	21	129			

Sample ID: 2209219-024AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH22-20 0'	Batch ID: 70035	RunNo: 90889								
Prep Date: 9/7/2022	Analysis Date: 9/8/2022	SeqNo: 3255229 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	14	46.17	0	90.4	36.1	154	4.40	33.9	
Surr: DNOP	3.7		4.617		80.0	21	129	0	0	

## Qualifiers:

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>LCS-70107</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70107</b>		RunNo: <b>91025</b>							
Prep Date: <b>9/12/2022</b>	Analysis Date: <b>9/13/2022</b>		SeqNo: <b>3255463</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		87.4	21	129			

Sample ID: <b>MB-70107</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70107</b>		RunNo: <b>91025</b>							
Prep Date: <b>9/12/2022</b>	Analysis Date: <b>9/13/2022</b>		SeqNo: <b>3255465</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		95.2	21	129			

**Qualifiers:**

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

Page 56 of 65



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

WO#: 2209219

19-Sep-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>mb-70028</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>70028</b>			RunNo: <b>90918</b>						
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/10/2022</b>			SeqNo: <b>3251222</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	37.7	212			

Sample ID: <b>lcs-70028</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>70028</b>			RunNo: <b>90918</b>						
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>			SeqNo: <b>3251223</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.4	72.3	137			
Surr: BFB	2000		1000		198	37.7	212			

Sample ID: <b>2209219-044ams</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>BH22-22 4'</b>	Batch ID: <b>70028</b>			RunNo: <b>90918</b>						
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>			SeqNo: <b>3251225</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.61	0	93.0	70	130			
Surr: BFB	1900		984.3		197	37.7	212			

Sample ID: <b>2209219-044amsd</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>BH22-22 4'</b>	Batch ID: <b>70028</b>			RunNo: <b>90918</b>						
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>			SeqNo: <b>3251226</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.83	0	88.1	70	130	4.54	20	
Surr: BFB	1900		993.0		194	37.7	212	0	0	

Sample ID: <b>mb-70060</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>70060</b>			RunNo: <b>90918</b>						
Prep Date: <b>9/8/2022</b>	Analysis Date: <b>9/10/2022</b>			SeqNo: <b>3251246</b>		Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		100	37.7	212			

Sample ID: <b>lcs-70060</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>70060</b>			RunNo: <b>90918</b>						
Prep Date: <b>9/8/2022</b>	Analysis Date: <b>9/10/2022</b>			SeqNo: <b>3251247</b>		Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		195	37.7	212			

**Qualifiers:**

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: <b>mb-70028</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70028</b>		RunNo: <b>90918</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/10/2022</b>		SeqNo: <b>3251296</b>		Units: <b>mg/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	0.94		1.000		94.4	70	130			

Sample ID: <b>LCS-70028</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>70028</b>		RunNo: <b>90918</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3251297</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.8	80	120			
Toluene	0.93	0.050	1.000	0	92.6	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.2	80	120			
Xylenes, Total	2.8	0.10	3.000	0	91.7	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		93.8	70	130			

Sample ID: <b>2209219-045ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BH22-23 0'</b>	Batch ID: <b>70028</b>		RunNo: <b>90918</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3251300</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	0.9970	0	85.6	68.8	120			
Toluene	0.88	0.050	0.9970	0	88.0	73.6	124			
Ethylbenzene	0.88	0.050	0.9970	0	88.2	72.7	129			
Xylenes, Total	2.6	0.10	2.991	0.01892	86.3	75.7	126			
Surr: 4-Bromofluorobenzene	0.93		0.9970		93.7	70	130			

Sample ID: <b>2209219-045amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BH22-23 0'</b>	Batch ID: <b>70028</b>		RunNo: <b>90918</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3251301</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.024	0.9785	0	83.8	68.8	120	4.06	20	
Toluene	0.86	0.049	0.9785	0	87.7	73.6	124	2.25	20	
Ethylbenzene	0.85	0.049	0.9785	0	87.2	72.7	129	2.96	20	
Xylenes, Total	2.5	0.098	2.935	0.01892	85.3	75.7	126	3.02	20	
Surr: 4-Bromofluorobenzene	0.94		0.9785		96.3	70	130	0	0	

## Qualifiers:

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



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: mb-70060	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 70060			RunNo: 90918						
Prep Date: 9/8/2022	Analysis Date: 9/10/2022			SeqNo: 3251320		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.0	70	130			

Sample ID: LCS-70060	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: 70060			RunNo: 90918						
Prep Date: 9/8/2022	Analysis Date: 9/10/2022			SeqNo: 3251321		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.3	70	130			

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix 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



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

WO#: 2209219

19-Sep-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: 2209219-025ams	SampType: MS4	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: BH22-01 3'	Batch ID: 70022	RunNo: 90942								
Prep Date: 9/7/2022	Analysis Date: 9/9/2022	SeqNo: 3251466 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9533	0	94.2	75.8	123			
Toluene	0.92	0.048	0.9533	0	96.7	68.3	130			
Ethylbenzene	0.97	0.048	0.9533	0	102	76.6	132			
Xylenes, Total	2.9	0.095	2.860	0	102	74.7	132			
Surr: 1,2-Dichloroethane-d4	0.47		0.4766		98.8	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.4766		104	70	130			
Surr: Dibromofluoromethane	0.56		0.4766		117	70	130			
Surr: Toluene-d8	0.49		0.4766		102	70	130			

Sample ID: 2209219-025amsd	SampType: MSD4	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: BH22-01 3'	Batch ID: 70022	RunNo: 90942								
Prep Date: 9/7/2022	Analysis Date: 9/9/2022	SeqNo: 3251468 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.024	0.9747	0	90.7	75.8	123	1.50	20	
Toluene	0.94	0.049	0.9747	0	96.1	68.3	130	1.55	20	
Ethylbenzene	0.96	0.049	0.9747	0	98.1	76.6	132	1.38	20	
Xylenes, Total	3.0	0.097	2.924	0	101	74.7	132	0.751	20	
Surr: 1,2-Dichloroethane-d4	0.50		0.4873		102	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.48		0.4873		99.0	70	130	0	0	
Surr: Dibromofluoromethane	0.57		0.4873		116	70	130	0	0	
Surr: Toluene-d8	0.50		0.4873		103	70	130	0	0	

Sample ID: lcs-70022	SampType: LCS4	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: BatchQC	Batch ID: 70022	RunNo: 90942								
Prep Date: 9/7/2022	Analysis Date: 9/9/2022	SeqNo: 3251501 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.6	80	120			
Toluene	0.95	0.050	1.000	0	95.2	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.7	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.4	80	120			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.9	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.9	70	130			
Surr: Dibromofluoromethane	0.58		0.5000		115	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

**Qualifiers:**

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: <b>mb-70022</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>70022</b>	RunNo: <b>90942</b>								
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>	SeqNo: <b>3251503</b>	Units: <b>mg/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: 1,2-Dichloroethane-d4	0.48		0.5000		96.9	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.58		0.5000		116	70	130			
Surr: Toluene-d8	0.50		0.5000		99.4	70	130			

Sample ID: <b>2209219-005ams</b>	SampType: <b>MS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BH22-13 2'</b>	Batch ID: <b>70018</b>	RunNo: <b>90934</b>								
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/10/2022</b>	SeqNo: <b>3251544</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	0.9960	0	95.7	75.8	123			
Toluene	1.0	0.050	0.9960	0	105	68.3	130			
Ethylbenzene	1.1	0.050	0.9960	0	106	76.6	132			
Xylenes, Total	3.2	0.10	2.988	0	106	74.7	132			
Surr: 1,2-Dichloroethane-d4	0.48		0.4980		96.9	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.4980		92.9	70	130			
Surr: Dibromofluoromethane	0.47		0.4980		95.0	70	130			
Surr: Toluene-d8	0.50		0.4980		101	70	130			

Sample ID: <b>2209219-005amsd</b>	SampType: <b>MSD4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BH22-13 2'</b>	Batch ID: <b>70018</b>	RunNo: <b>90934</b>								
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/10/2022</b>	SeqNo: <b>3251545</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	0.9940	0	95.9	75.8	123	0.0807	20	
Toluene	1.1	0.050	0.9940	0	110	68.3	130	4.15	20	
Ethylbenzene	1.1	0.050	0.9940	0	107	76.6	132	0.464	20	
Xylenes, Total	3.3	0.099	2.982	0	111	74.7	132	4.75	20	
Surr: 1,2-Dichloroethane-d4	0.48		0.4970		97.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.46		0.4970		92.7	70	130	0	0	
Surr: Dibromofluoromethane	0.48		0.4970		97.5	70	130	0	0	
Surr: Toluene-d8	0.52		0.4970		106	70	130	0	0	

## Qualifiers:

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



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

WO#: 2209219

19-Sep-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>Ics-70015</b>	SampType: <b>LCS4</b>		TestCode: <b>EPA Method 8260B: Volatiles Short List</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>70015</b>		RunNo: <b>90934</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3251564</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	90.8	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.0	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		103	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			

Sample ID: <b>Ics-70018</b>	SampType: <b>LCS4</b>		TestCode: <b>EPA Method 8260B: Volatiles Short List</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>70018</b>		RunNo: <b>90934</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3251565</b>		Units: <b>mg/Kg</b>					
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	1.1	0.050	1.000	0	105	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.5	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.6	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.5	70	130			
Surr: Toluene-d8	0.54		0.5000		108	70	130			

Sample ID: <b>mb-70015</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles Short List</b>							
Client ID: <b>PBS</b>	Batch ID: <b>70015</b>		RunNo: <b>90934</b>							
Prep Date: <b>9/7/2022</b>	Analysis Date: <b>9/9/2022</b>		SeqNo: <b>3251566</b>		Units: <b>mg/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: 1,2-Dichloroethane-d4	0.50		0.5000		100	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.53		0.5000		106	70	130			

**Qualifiers:**

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



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: mb-70018	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: PBS	Batch ID: 70018	RunNo: 90934								
Prep Date: 9/7/2022	Analysis Date: 9/10/2022	SeqNo: 3251567 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.3	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.6	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.9	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative 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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2209219-004ams	SampType: MS		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: BH22-13 0'	Batch ID: 70018		RunNo: 90934							
Prep Date: 9/7/2022	Analysis Date: 9/10/2022		SeqNo: 3251484		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	49	24	23.65	35.35	58.8	65.9	123			S
Surr: BFB	2400		2365		101	70	130			

Sample ID: 2209219-004amsd	SampType: MSD		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: BH22-13 0'	Batch ID: 70018		RunNo: 90934							
Prep Date: 9/7/2022	Analysis Date: 9/10/2022		SeqNo: 3251486		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	53	24	23.63	35.35	73.6	65.9	123	6.86	20	
Surr: BFB	2500		2363		105	70	130	0	0	

Sample ID: lcs-70015	SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: LCSS	Batch ID: 70015		RunNo: 90934							
Prep Date: 9/7/2022	Analysis Date: 9/9/2022		SeqNo: 3251516		Units: mg/Kg					
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	510		500.0		103	70	130			

Sample ID: lcs-70018	SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: LCSS	Batch ID: 70018		RunNo: 90934							
Prep Date: 9/7/2022	Analysis Date: 9/9/2022		SeqNo: 3251517		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.0	70	130			
Surr: BFB	480		500.0		95.6	70	130			

Sample ID: mb-70015	SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: PBS	Batch ID: 70015		RunNo: 90934							
Prep Date: 9/7/2022	Analysis Date: 9/9/2022		SeqNo: 3251518		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		102	70	130			

Sample ID: mb-70018	SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: PBS	Batch ID: 70018		RunNo: 90934							
Prep Date: 9/7/2022	Analysis Date: 9/10/2022		SeqNo: 3251519		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

## Qualifiers:

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2209219

19-Sep-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: mb-70018	SampType: MBLK	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: PBS	Batch ID: 70018	RunNo: 90934								
Prep Date: 9/7/2022	Analysis Date: 9/10/2022	SeqNo: 3251519 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	470		500.0		94.7	70	130			

Sample ID: 2209219-024ams	SampType: MS	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: BH22-20 0'	Batch ID: 70022	RunNo: 90942								
Prep Date: 9/7/2022	Analysis Date: 9/9/2022	SeqNo: 3251687 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	24.13	0	91.7	65.9	123			
Surr: BFB	560		482.6		116	70	130			

Sample ID: 2209219-024amsd	SampType: MSD	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: BH22-20 0'	Batch ID: 70022	RunNo: 90942								
Prep Date: 9/7/2022	Analysis Date: 9/9/2022	SeqNo: 3251688 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	24.11	0	87.3	65.9	123	5.01	20	
Surr: BFB	530		482.2		111	70	130	0	0	

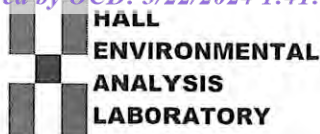
Sample ID: lcs-70022	SampType: LCS	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: LCSS	Batch ID: 70022	RunNo: 90942								
Prep Date: 9/7/2022	Analysis Date: 9/9/2022	SeqNo: 3251708 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.2	70	130			
Surr: BFB	550		500.0		111	70	130			

Sample ID: mb-70022	SampType: MBLK	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: PBS	Batch ID: 70022	RunNo: 90942								
Prep Date: 9/7/2022	Analysis Date: 9/9/2022	SeqNo: 3251709 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	580		500.0		117	70	130			

## Qualifiers:

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





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

## Sample Log-In Check List

Client Name: Vertex Resources  
Services, Inc.

Work Order Number: 2209219

RcptNo: 1

Received By: Juan Rojas 9/7/2022 7:30:00 AM

Completed By: Sean Livingston 9/7/2022 7:53:24 AM

Reviewed By: KPL 9.07.22

*[Signature]*

*[Signature]*

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☒

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: *Jan 9/7/22*

Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

17. Cooler Information

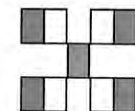
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good				







<b>Chain-of-Custody Record</b>		Turn-Around Time:
Client:	Vertex	<input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush 5 Day
(direct bill to Devon)		Project Name:
Mailing Address:		SDE 31 Federal #009
		Project #:
Phone #:		22E-02816-36
email or Fax#:		Project Manager:
QA/QC Package:		Kent Stallings
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		kstallings@vertex.ca
Accreditation:	<input type="checkbox"/> Az Compliance	Sampler: Zachary Englebert
<input type="checkbox"/> NELAC <input type="checkbox"/> Other		On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> EDD (Type)		# of Coolers: 1



# HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

email or Fax#:		Project Manager: Kent Stallings kstallings@vertex.ca	
QA/QC Package:		Sampler: Zachary Englebert	
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Accreditation: <input type="checkbox"/> Az Compliance <input type="checkbox"/> NELAC <input type="checkbox"/> Other		# of Coolers: 1	
<input type="checkbox"/> EDD (Type) _____		Cooler Temp (including CF): 1640.1 = 1.7	
Date	Time	Matrix	Sample Name
09/03	14:00	Soil	BH22-16 2'
09/03	14:10	Soil	BH22-16 3'
09/03	14:15	Soil	BH22-17 0'
09/03	14:20	Soil	BH22-17 2'
09/03	14:35	Soil	BH22-17 4'
09/03	14:40	Soil	BH22-18 0'
09/03	14:55	Soil	BH22-18 2'
09/03	15:15	Soil	BH22-18 3'
09/03	15:20	Soil	BH22-19 0'
09/03	15:40	Soil	BH22-19 2'
09/03	15:45	Soil	BH22-19 4'
09/03	15:30	Soil	BH22-20 0'

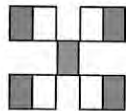
## Remarks:

Direct bill to Devon, Dale Woodall  
cc. [kstallings@vertex.ca](mailto:kstallings@vertex.ca) for Final Report



Chain-of-Custody Record									
Client:		Vertex		Turn-Around Time:					
				<input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush		5 days			
Mailing Address:				Project Name:					
				SDE 31 Federal #009					
				Project #:					
				22E-02816-36					
email or Fax#:				Project Manager:					
QA/QC Package:				Kent Stallings					
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)				kstallings@vertex.ca					
Accreditation: <input type="checkbox"/> Az Compliance <input type="checkbox"/> NELAC <input type="checkbox"/> Other				Sampler: Zachary Englebert On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No					
<input type="checkbox"/> EDD (Type)				# of Coolers: 1 Cooler Temp (including CF): 16 to 17					
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.			
09/03	11:40	Soil	BH22-01 3'	1, 4oz jar		025			
09/03	8:55	Soil	BH22-08 2'	1, 4oz jar		026			
09/03	9:20	Soil	BH22-08 2.5'	1, 4oz jar		027			
09/03	10:25	Soil	BH22-09 0'	1, 4oz jar		028			
09/03	10:35	Soil	BH22-09 2'	1, 4oz jar		029			
09/03	11:00	Soil	BH22-09 3.5'	1, 4oz jar		030			
09/03	11:10	Soil	BH22-10 0'	1, 4oz jar		031			
09/03	11:20	Soil	BH22-10 2'	1, 4oz jar		032			
09/03	11:25	Soil	BH22-10 2.5'	1, 4oz jar		033			
09/03	9:05	Soil	BH22-11 0'	1, 4oz jar		034			
09/03	9:15	Soil	BH22-11 2'	1, 4oz jar		035			
09/03	10:10	Soil	BH22-11 2.5'	1, 4oz jar		036			
Date:	Time:	Relinquished by:		Received by:		Via:		Date	Time
9-6-22	07:00	Zachary Englebert		Zachary Englebert		9/6/22		700	
Date:	Time:	Relinquished by:		Received by:		Via:		Date	Time
9/6/22	9:00	Zachary Englebert		Zachary Englebert		9/6/22		7:30	

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



# HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

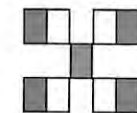
[illegible]

Remarks:

Direct bill to Devon, Dale Woodall  
cc. [kstallings@vertex.ca](mailto:kstallings@vertex.ca) for Final Report



<b>Chain-of-Custody Record</b>		Turn-Around Time:	
Client:	Vertex	<input checked="" type="checkbox"/> Standard	<input checked="" type="checkbox"/> Rush <u>5 Day</u>
(direct bill to Devon)		Project Name:	
Mailing Address:		SDE 31 Federal #009	
		Project #:	
Phone #:		22E-02816-36	
email or Fax#:		Project Manager:	
QA/QC Package:		Kent Stallings	
<input type="checkbox"/> Standard	<input type="checkbox"/> Level 4 (Full Validation)	<u>kstallings@vertex.ca</u>	
Accreditation:	<input type="checkbox"/> Az Compliance	Sampler: Zachary Englebert	
<input type="checkbox"/> NELAC	<input type="checkbox"/> Other _____	On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> EDD (Type)		# of Coolers: _____	



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

[illegible]

## Remarks:

Direct bill to Devon, Dale Woodall  
cc. [kstallings@vertex.ca](mailto:kstallings@vertex.ca) for Final Report

Received by: <i>[Signature]</i>	Via:	Date	Time
Received by: <i>[Signature]</i>	Via:	9/6/22	700

Date:	1-6-22	Time:	07:00	Relinquished by:	<i>Robert Williams</i>
Date:		Time:		Relinquished by:	



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





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

November 17, 2022

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: SDE 31 Federal 009

OrderNo.: 2211577

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 13 sample(s) on 11/10/2022 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-13 4'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 8:30:00 AM

Lab ID: 2211577-001

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	11/14/2022 7:08:55 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/14/2022 7:08:55 PM
Surr: DNOP	111	21-129		%Rec	1	11/14/2022 7:08:55 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2022 12:49:00 PM
Surr: BFB	101	37.7-212		%Rec	1	11/14/2022 12:49:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	11/14/2022 12:49:00 PM
Toluene	ND	0.048		mg/Kg	1	11/14/2022 12:49:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2022 12:49:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/14/2022 12:49:00 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	11/14/2022 12:49:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	3500	150		mg/Kg	50	11/15/2022 5:30:37 PM

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

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

Page 1 of 18



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-13 6'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 8:45:00 AM

Lab ID: 2211577-002

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	11/14/2022 7:19:29 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/14/2022 7:19:29 PM
Surr: DNOP	104	21-129		%Rec	1	11/14/2022 7:19:29 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2022 1:48:00 PM
Surr: BFB	93.7	37.7-212		%Rec	1	11/14/2022 1:48:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.024		mg/Kg	1	11/14/2022 1:48:00 PM
Toluene	ND	0.048		mg/Kg	1	11/14/2022 1:48:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2022 1:48:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/14/2022 1:48:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/14/2022 1:48:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: NAI
Chloride	160	60		mg/Kg	20	11/14/2022 11:27:43 PM

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

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

Page 2 of 18



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-13 8'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 9:00:00 AM

Lab ID: 2211577-003

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	11/14/2022 7:30:04 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/14/2022 7:30:04 PM
Surr: DNOP	112	21-129		%Rec	1	11/14/2022 7:30:04 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2022 2:08:00 PM
Surr: BFB	98.2	37.7-212		%Rec	1	11/14/2022 2:08:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	11/14/2022 2:08:00 PM
Toluene	ND	0.048		mg/Kg	1	11/14/2022 2:08:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2022 2:08:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/14/2022 2:08:00 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	11/14/2022 2:08:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	190	60		mg/Kg	20	11/15/2022 12:04:57 AM

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

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

Page 3 of 18



Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2211577  
Date Reported: 11/17/2022

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BH22-25 0'  
Project: SDE 31 Federal 009      Collection Date: 11/7/2022 11:15:00 AM  
Lab ID: 2211577-004      Matrix: SOIL      Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	11/14/2022 7:40:37 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	11/14/2022 7:40:37 PM
Surr: DNOP	128	21-129		%Rec	1	11/14/2022 7:40:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/14/2022 2:27:00 PM
Surr: BFB	98.6	37.7-212		%Rec	1	11/14/2022 2:27:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.024		mg/Kg	1	11/14/2022 2:27:00 PM
Toluene	ND	0.049		mg/Kg	1	11/14/2022 2:27:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/14/2022 2:27:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/14/2022 2:27:00 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	11/14/2022 2:27:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	11/15/2022 12:17:22 AM

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

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



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-25 2'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 11:20:00 AM

Lab ID: 2211577-005

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	11/14/2022 7:51:09 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/14/2022 7:51:09 PM
Surr: DNOP	114	21-129		%Rec	1	11/14/2022 7:51:09 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2022 2:47:00 PM
Surr: BFB	96.8	37.7-212		%Rec	1	11/14/2022 2:47:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	11/14/2022 2:47:00 PM
Toluene	ND	0.048		mg/Kg	1	11/14/2022 2:47:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2022 2:47:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/14/2022 2:47:00 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	11/14/2022 2:47:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	120	60		mg/Kg	20	11/15/2022 12:29:46 AM

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

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

Page 5 of 18



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-26 0'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 1:00:00 PM

Lab ID: 2211577-006

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	11/14/2022 8:01:39 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/14/2022 8:01:39 PM
Surr: DNOP	109	21-129		%Rec	1	11/14/2022 8:01:39 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2022 3:07:00 PM
Surr: BFB	100	37.7-212		%Rec	1	11/14/2022 3:07:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	11/14/2022 3:07:00 PM
Toluene	ND	0.048		mg/Kg	1	11/14/2022 3:07:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2022 3:07:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/14/2022 3:07:00 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	11/14/2022 3:07:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	190	60		mg/Kg	20	11/15/2022 12:42:11 AM

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

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

Page 6 of 18



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-26 2'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 1:05:00 PM

Lab ID: 2211577-007

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	11/14/2022 8:22:30 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/14/2022 8:22:30 PM
Surr: DNOP	113	21-129		%Rec	1	11/14/2022 8:22:30 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/14/2022 3:27:00 PM
Surr: BFB	103	37.7-212		%Rec	1	11/14/2022 3:27:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.025		mg/Kg	1	11/14/2022 3:27:00 PM
Toluene	ND	0.049		mg/Kg	1	11/14/2022 3:27:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/14/2022 3:27:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/14/2022 3:27:00 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	11/14/2022 3:27:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	210	59		mg/Kg	20	11/15/2022 12:54:35 AM

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

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



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-27 0'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 2:15:00 PM

Lab ID: 2211577-008

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	11/14/2022 8:32:58 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/14/2022 8:32:58 PM
Surr: DNOP	109	21-129		%Rec	1	11/14/2022 8:32:58 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/14/2022 3:47:00 PM
Surr: BFB	102	37.7-212		%Rec	1	11/14/2022 3:47:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.023		mg/Kg	1	11/14/2022 3:47:00 PM
Toluene	ND	0.047		mg/Kg	1	11/14/2022 3:47:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/14/2022 3:47:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	11/14/2022 3:47:00 PM
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	11/14/2022 3:47:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: NAI
Chloride	ND	60		mg/Kg	20	11/15/2022 1:07:00 AM

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

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

Page 8 of 18



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-27 2'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 2:20:00 PM

Lab ID: 2211577-009

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	11/14/2022 8:43:26 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/14/2022 8:43:26 PM
Surr: DNOP	110	21-129		%Rec	1	11/14/2022 8:43:26 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/14/2022 4:06:00 PM
Surr: BFB	96.8	37.7-212		%Rec	1	11/14/2022 4:06:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	11/14/2022 4:06:00 PM
Toluene	ND	0.049		mg/Kg	1	11/14/2022 4:06:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/14/2022 4:06:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/14/2022 4:06:00 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	11/14/2022 4:06:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	210	60		mg/Kg	20	11/15/2022 1:19:25 AM

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

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



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-28 0'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 3:00:00 PM

Lab ID: 2211577-010

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	11/14/2022 8:53:56 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/14/2022 8:53:56 PM
Surr: DNOP	108	21-129		%Rec	1	11/14/2022 8:53:56 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/14/2022 4:46:00 PM
Surr: BFB	103	37.7-212		%Rec	1	11/14/2022 4:46:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	11/14/2022 4:46:00 PM
Toluene	ND	0.046		mg/Kg	1	11/14/2022 4:46:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	11/14/2022 4:46:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	11/14/2022 4:46:00 PM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	11/14/2022 4:46:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	11/15/2022 1:31:49 AM

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

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



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-28 2'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 3:15:00 PM

Lab ID: 2211577-011

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	11/14/2022 9:04:28 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/14/2022 9:04:28 PM
Surr: DNOP	117	21-129		%Rec	1	11/14/2022 9:04:28 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2022 5:06:00 PM
Surr: BFB	97.8	37.7-212		%Rec	1	11/14/2022 5:06:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	11/14/2022 5:06:00 PM
Toluene	ND	0.048		mg/Kg	1	11/14/2022 5:06:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2022 5:06:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/14/2022 5:06:00 PM
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	11/14/2022 5:06:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	440	60		mg/Kg	20	11/15/2022 1:44:13 AM

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

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



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-35 0'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 1:45:00 PM

Lab ID: 2211577-012

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	11/14/2022 9:15:00 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/14/2022 9:15:00 PM
Surr: DNOP	105	21-129		%Rec	1	11/14/2022 9:15:00 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/14/2022 5:25:00 PM
Surr: BFB	94.0	37.7-212		%Rec	1	11/14/2022 5:25:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.025		mg/Kg	1	11/14/2022 5:25:00 PM
Toluene	ND	0.049		mg/Kg	1	11/14/2022 5:25:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/14/2022 5:25:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/14/2022 5:25:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/14/2022 5:25:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	59		mg/Kg	20	11/15/2022 1:34:49 PM

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

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



## Analytical Report

Lab Order 2211577

Date Reported: 11/17/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH22-35 2'

Project: SDE 31 Federal 009

Collection Date: 11/7/2022 1:50:00 PM

Lab ID: 2211577-013

Matrix: SOIL

Received Date: 11/10/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	11/14/2022 9:25:31 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/14/2022 9:25:31 PM
Surr: DNOP	110	21-129		%Rec	1	11/14/2022 9:25:31 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/14/2022 5:45:00 PM
Surr: BFB	103	37.7-212		%Rec	1	11/14/2022 5:45:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	11/14/2022 5:45:00 PM
Toluene	ND	0.047		mg/Kg	1	11/14/2022 5:45:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/14/2022 5:45:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	11/14/2022 5:45:00 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	11/14/2022 5:45:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	11/15/2022 2:12:02 PM

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

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2211577

17-Nov-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>MB-71490</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71490</b>		RunNo: <b>92581</b>							
Prep Date: <b>11/14/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3329330</b>		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: <b>LCS-71490</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71490</b>		RunNo: <b>92581</b>							
Prep Date: <b>11/14/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3329331</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.6	90	110			

Sample ID: <b>MB-71506</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71506</b>		RunNo: <b>92584</b>							
Prep Date: <b>11/15/2022</b>	Analysis Date: <b>11/15/2022</b>		SeqNo: <b>3331205</b>		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: <b>LCS-71506</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71506</b>		RunNo: <b>92584</b>							
Prep Date: <b>11/15/2022</b>	Analysis Date: <b>11/15/2022</b>		SeqNo: <b>3331206</b>		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	96.6	90	110			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 14 of 18



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

WO#: 2211577

17-Nov-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>LCS-71461</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71461</b>		RunNo: <b>92557</b>							
Prep Date: <b>11/14/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3327869</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		101	21	129			

Sample ID: <b>MB-71461</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71461</b>		RunNo: <b>92557</b>							
Prep Date: <b>11/14/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3327870</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.6	21	129			

Sample ID: <b>LCS-71439</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71439</b>		RunNo: <b>92557</b>							
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3329477</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	15	50.00	0	126	64.4	127			
Surr: DNOP	7.4		5.000		149	21	129			S

Sample ID: <b>MB-71439</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71439</b>		RunNo: <b>92557</b>							
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3329478</b>		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 Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		105	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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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



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

WO#: 2211577

17-Nov-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>ics-71438</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71438</b>		RunNo: <b>92569</b>							
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3328706</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	72.3	137			
Surr: BFB	2300		1000		226	37.7	212			S

Sample ID: <b>mb-71438</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71438</b>		RunNo: <b>92569</b>							
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3328707</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	37.7	212			

Sample ID: <b>ics-71448</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71448</b>		RunNo: <b>92569</b>							
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3328730</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2300		1000		227	37.7	212			S

Sample ID: <b>mb-71448</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71448</b>		RunNo: <b>92569</b>							
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>		SeqNo: <b>3328731</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	990		1000		99.2	37.7	212			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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



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

WO#: 2211577

17-Nov-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>Ics-71438</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71438</b>	RunNo: <b>92569</b>								
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>	SeqNo: <b>3328759</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	113	80	120			
Toluene	1.1	0.050	1.000	0	113	80	120			
Ethylbenzene	1.1	0.050	1.000	0	113	80	120			
Xylenes, Total	3.3	0.10	3.000	0	111	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	70	130			

Sample ID: <b>mb-71438</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71438</b>	RunNo: <b>92569</b>								
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>	SeqNo: <b>3328760</b> Units: <b>mg/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	1.1		1.000		109	70	130			

Sample ID: <b>2211577-001ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>BH22-13 4'</b>	Batch ID: <b>71438</b>	RunNo: <b>92569</b>								
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>	SeqNo: <b>3328763</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9643	0	104	68.8	120			
Toluene	1.0	0.048	0.9643	0	104	73.6	124			
Ethylbenzene	1.0	0.048	0.9643	0	105	72.7	129			
Xylenes, Total	3.0	0.096	2.893	0	104	75.7	126			
Surr: 4-Bromofluorobenzene	1.0		0.9643		106	70	130			

Sample ID: <b>2211577-001amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>BH22-13 4'</b>	Batch ID: <b>71438</b>	RunNo: <b>92569</b>								
Prep Date: <b>11/11/2022</b>	Analysis Date: <b>11/14/2022</b>	SeqNo: <b>3328764</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9588	0	105	68.8	120	0.466	20	
Toluene	1.0	0.048	0.9588	0	104	73.6	124	0.724	20	
Ethylbenzene	1.0	0.048	0.9588	0	106	72.7	129	0.641	20	
Xylenes, Total	3.0	0.096	2.876	0	105	75.7	126	0.772	20	
Surr: 4-Bromofluorobenzene	1.0		0.9588		108	70	130	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2211577

17-Nov-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: Ics-71448	SampType: LCS	TestCode: EPA Method 8021B: Volatiles
Client ID: LCSS	Batch ID: 71448	RunNo: 92569
Prep Date: 11/11/2022	Analysis Date: 11/14/2022	SeqNo: 3328782 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: 4-Bromofluorobenzene	1.1	1.000 107 70 130

Sample ID: mb-71448	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles
Client ID: PBS	Batch ID: 71448	RunNo: 92569
Prep Date: 11/11/2022	Analysis Date: 11/14/2022	SeqNo: 3328783 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: 4-Bromofluorobenzene	1.1	1.000 109 70 130

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of 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





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

## Sample Log-In Check List

Client Name: **Vertex Resources Services, Inc.**

Work Order Number: **2211577**

RcptNo: 1

Received By: **Juan Rojas** 11/10/2022 7:15:00 AM

Completed By: **Desiree Dominguez** 11/10/2022 8:18:24 AM

Reviewed By: **KPa 11.10.22**

*Juan Rojas*

*Desiree Dominguez*

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

# of preserved  
bottles checked  
for pH:

( $<2$  or  $>12$  unless noted)

Adjusted?

Checked by: *ju 11/10/22*

### Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Not Present			





HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Turn-Around Time:		<input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush 5 Day				
Project Name:		SDE 31 Federal #009				
Project #:		22E-02816-36				
Project Manager:		Kent Stallings				
QA/QC Package:		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)				
Accreditation:		<input type="checkbox"/> Az Compliance <input type="checkbox"/> NELAC <input type="checkbox"/> Other				
Sample:		On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No				
# of Coolers:		Cooler Temp (including OFF): 0-50.1-50.4				
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
11/07/22	8:30	Soil	BH22-13 4'	1, 4oz jar		2211577
11/07/22	8:45	Soil	BH22-13 6'	1, 4oz jar		001
11/07/22	9:00	Soil	BH22-13 8'	1, 4oz jar		002
11/07/22	11:15	Soil	BH22-25 0'	1, 4oz jar		003
11/07/22	11:20	Soil	BH22-25 2'	1, 4oz jar		004
11/07/22	13:00	Soil	BH22-26 0'	1, 4oz jar		005
11/07/22	13:05	Soil	BH22-26 2'	1, 4oz jar		006
11/07/22	14:15	Soil	BH22-27 0'	1, 4oz jar		007
11/07/22	14:20	Soil	BH22-27 2'	1, 4oz jar		008
11/07/22	15:00	Soil	BH22-28 0'	1, 4oz jar		009
11/07/22	15:15	Soil	BH22-28 2'	1, 4oz jar		010
Date:		Time:		Relinquished by:		Date:
11/9/22		07:50		[Signature]		11/9/22 7:00
Date:		Time:		Relinquished by:		Date:
11/9/22		19:00		[Signature]		11/10/22 2:15
Received by:		Via:		Date:		Time:
[Signature]		Via:		11/10/22		2:15

Remarks:  
Direct bill to Devon, Dale Woodall  
cc. kstallings@vertex.ca for Final Report

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 noted on the analytical report.





## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

[illegible]

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





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

December 15, 2022

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: SDE 31 Federal 009

OrderNo.: 2212211

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 143 sample(s) on 12/6/2022 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-01 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:05:00 AM

Lab ID: 2212211-001

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 12:04:36 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 12:04:36 PM
Surr: DNOP	101	21-129		%Rec	1	12/7/2022 12:04:36 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 1:54:40 PM
Surr: BFB	90.9	37.7-212		%Rec	1	12/7/2022 1:54:40 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 1:54:40 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 1:54:40 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 1:54:40 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 1:54:40 PM
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	12/7/2022 1:54:40 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 10:13:59 PM

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

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

Page 1 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-02 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:05:00 AM

Lab ID: 2212211-002

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 1:15:47 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 1:15:47 PM
Surr: DNOP	104	21-129		%Rec	1	12/7/2022 1:15:47 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 2:18:19 PM
Surr: BFB	92.3	37.7-212		%Rec	1	12/7/2022 2:18:19 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/7/2022 2:18:19 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 2:18:19 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 2:18:19 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2022 2:18:19 PM
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	12/7/2022 2:18:19 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	61		mg/Kg	20	12/7/2022 10:26:23 PM

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

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

Page 2 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-03 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:10:00 AM

Lab ID: 2212211-003

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 1:39:28 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 1:39:28 PM
Surr: DNOP	99.5	21-129		%Rec	1	12/7/2022 1:39:28 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 2:41:49 PM
Surr: BFB	92.6	37.7-212		%Rec	1	12/7/2022 2:41:49 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 2:41:49 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 2:41:49 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 2:41:49 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/7/2022 2:41:49 PM
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	12/7/2022 2:41:49 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 10:38:47 PM

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

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

Page 3 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-04 -04'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:10:00 AM

Lab ID: 2212211-004

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 2:03:09 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 2:03:09 PM
Surr: DNOP	99.3	21-129		%Rec	1	12/7/2022 2:03:09 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 3:05:14 PM
Surr: BFB	94.2	37.7-212		%Rec	1	12/7/2022 3:05:14 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 3:05:14 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 3:05:14 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 3:05:14 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/7/2022 3:05:14 PM
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	12/7/2022 3:05:14 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 10:51:11 PM

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

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

Page 4 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-05 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:15:00 AM

Lab ID: 2212211-005

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 2:50:35 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/7/2022 2:50:35 PM
Surr: DNOP	105	21-129		%Rec	1	12/7/2022 2:50:35 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 4:15:32 PM
Surr: BFB	93.5	37.7-212		%Rec	1	12/7/2022 4:15:32 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 4:15:32 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 4:15:32 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 4:15:32 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 4:15:32 PM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	12/7/2022 4:15:32 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 11:03:36 PM

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

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

Page 5 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-06 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:15:00 AM

Lab ID: 2212211-006

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 3:14:14 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 3:14:14 PM
Surr: DNOP	104	21-129		%Rec	1	12/7/2022 3:14:14 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 4:39:08 PM
Surr: BFB	89.5	37.7-212		%Rec	1	12/7/2022 4:39:08 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 4:39:08 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 4:39:08 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 4:39:08 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/7/2022 4:39:08 PM
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	12/7/2022 4:39:08 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 11:40:48 PM

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

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

Page 6 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-07 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:20:00 AM

Lab ID: 2212211-007

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 3:37:57 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 3:37:57 PM
Surr: DNOP	101	21-129		%Rec	1	12/7/2022 3:37:57 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 5:02:44 PM
Surr: BFB	90.2	37.7-212		%Rec	1	12/7/2022 5:02:44 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 5:02:44 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 5:02:44 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 5:02:44 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 5:02:44 PM
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	12/7/2022 5:02:44 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 11:53:13 PM

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

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

Page 7 of 167



CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-08 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:20:00 AM

Lab ID: 2212211-008

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 4:01:38 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 4:01:38 PM
Surr: DNOP	102	21-129		%Rec	1	12/7/2022 4:01:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 5:26:22 PM
Surr: BFB	91.4	37.7-212		%Rec	1	12/7/2022 5:26:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 5:26:22 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 5:26:22 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 5:26:22 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 5:26:22 PM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	12/7/2022 5:26:22 PM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	83	60		mg/Kg	20	12/7/2022 4:23:40 PM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-09 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:25:00 AM

Lab ID: 2212211-009

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 4:25:20 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 4:25:20 PM
Surr: DNOP	105	21-129		%Rec	1	12/7/2022 4:25:20 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 5:50:07 PM
Surr: BFB	93.6	37.7-212		%Rec	1	12/7/2022 5:50:07 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 5:50:07 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 5:50:07 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 5:50:07 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/7/2022 5:50:07 PM
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	1	12/7/2022 5:50:07 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	110	60		mg/Kg	20	12/7/2022 5:00:43 PM

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

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

Page 9 of 167



CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-10 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:25:00 AM

Lab ID: 2212211-010

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 4:49:00 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/7/2022 4:49:00 PM
Surr: DNOP	103	21-129		%Rec	1	12/7/2022 4:49:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 6:13:45 PM
Surr: BFB	91.3	37.7-212		%Rec	1	12/7/2022 6:13:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 6:13:45 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 6:13:45 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 6:13:45 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2022 6:13:45 PM
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	12/7/2022 6:13:45 PM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 5:37:43 PM

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

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

Page 10 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-11 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:30:00 AM

Lab ID: 2212211-011

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 5:12:44 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 5:12:44 PM
Surr: DNOP	99.0	21-129		%Rec	1	12/7/2022 5:12:44 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 6:37:18 PM
Surr: BFB	91.9	37.7-212		%Rec	1	12/7/2022 6:37:18 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 6:37:18 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 6:37:18 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 6:37:18 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 6:37:18 PM
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	1	12/7/2022 6:37:18 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 5:50:04 PM

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

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

Page 11 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-12 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:30:00 AM

Lab ID: 2212211-012

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 5:36:23 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/7/2022 5:36:23 PM
Surr: DNOP	104	21-129		%Rec	1	12/7/2022 5:36:23 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 7:00:54 PM
Surr: BFB	91.4	37.7-212		%Rec	1	12/7/2022 7:00:54 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 7:00:54 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 7:00:54 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 7:00:54 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 7:00:54 PM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	12/7/2022 7:00:54 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 6:27:05 PM

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

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

Page 12 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-13 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:35:00 AM

Lab ID: 2212211-013

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 6:00:02 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 6:00:02 PM
Surr: DNOP	99.9	21-129		%Rec	1	12/7/2022 6:00:02 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 7:24:23 PM
Surr: BFB	89.6	37.7-212		%Rec	1	12/7/2022 7:24:23 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 7:24:23 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 7:24:23 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 7:24:23 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2022 7:24:23 PM
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	12/7/2022 7:24:23 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 6:39:26 PM

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

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

Page 13 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-14 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:35:00 AM

Lab ID: 2212211-014

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 6:23:37 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 6:23:37 PM
Surr: DNOP	98.5	21-129		%Rec	1	12/7/2022 6:23:37 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 7:47:56 PM
Surr: BFB	91.0	37.7-212		%Rec	1	12/7/2022 7:47:56 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/7/2022 7:47:56 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 7:47:56 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 7:47:56 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/7/2022 7:47:56 PM
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	12/7/2022 7:47:56 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 6:51:46 PM

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

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

Page 14 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-15 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:40:00 AM

Lab ID: 2212211-015

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 9:18:56 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 9:18:56 PM
Surr: DNOP	97.8	21-129		%Rec	1	12/7/2022 9:18:56 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 12:19:00 PM
Surr: BFB	104	37.7-212		%Rec	1	12/7/2022 12:19:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 12:19:00 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 12:19:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 12:19:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/7/2022 12:19:00 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	12/7/2022 12:19:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/7/2022 7:04:07 PM

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

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

Page 15 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: WS22-16 0-4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:40:00 AM

Lab ID: 2212211-016

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 10:00:16 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 10:00:16 PM
Surr: DNOP	98.4	21-129		%Rec	1	12/7/2022 10:00:16 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 1:19:00 PM
Surr: BFB	107	37.7-212		%Rec	1	12/7/2022 1:19:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 1:19:00 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 1:19:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 1:19:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2022 1:19:00 PM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	12/7/2022 1:19:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/7/2022 7:16:27 PM

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

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

Page 16 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-01 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:50:00 AM

Lab ID: 2212211-017

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 10:13:46 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/7/2022 10:13:46 PM
Surr: DNOP	102	21-129		%Rec	1	12/7/2022 10:13:46 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/7/2022 2:18:00 PM
Surr: BFB	102	37.7-212		%Rec	1	12/7/2022 2:18:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 2:18:00 PM
Toluene	ND	0.048		mg/Kg	1	12/7/2022 2:18:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/7/2022 2:18:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/7/2022 2:18:00 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/7/2022 2:18:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	61		mg/Kg	20	12/7/2022 7:28:48 PM

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

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

Page 17 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-02 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:50:00 AM

Lab ID: 2212211-018

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 10:27:23 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 10:27:23 PM
Surr: DNOP	104	21-129		%Rec	1	12/7/2022 10:27:23 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/7/2022 2:37:00 PM
Surr: BFB	103	37.7-212		%Rec	1	12/7/2022 2:37:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 2:37:00 PM
Toluene	ND	0.048		mg/Kg	1	12/7/2022 2:37:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/7/2022 2:37:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/7/2022 2:37:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/7/2022 2:37:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/7/2022 7:41:09 PM

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

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

Page 18 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-03 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 7:55:00 AM

Lab ID: 2212211-019

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 10:41:02 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 10:41:02 PM
Surr: DNOP	102	21-129		%Rec	1	12/7/2022 10:41:02 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/7/2022 2:57:00 PM
Surr: BFB	106	37.7-212		%Rec	1	12/7/2022 2:57:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 2:57:00 PM
Toluene	ND	0.048		mg/Kg	1	12/7/2022 2:57:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/7/2022 2:57:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/7/2022 2:57:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/7/2022 2:57:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/7/2022 7:53:29 PM

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

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

Page 19 of 167



Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2212211  
Date Reported: 12/15/2022

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BS22-04 4'  
Project: SDE 31 Federal 009      Collection Date: 12/2/2022 7:55:00 AM  
Lab ID: 2212211-020      Matrix: SOIL      Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 10:54:43 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 10:54:43 PM
Surr: DNOP	105	21-129		%Rec	1	12/7/2022 10:54:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/7/2022 3:16:00 PM
Surr: BFB	102	37.7-212		%Rec	1	12/7/2022 3:16:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/7/2022 3:16:00 PM
Toluene	ND	0.048		mg/Kg	1	12/7/2022 3:16:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/7/2022 3:16:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/7/2022 3:16:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/7/2022 3:16:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 8:05:50 PM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-05 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:00:00 AM

Lab ID: 2212211-021

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 11:08:30 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 11:08:30 PM
Surr: DNOP	100	21-129		%Rec	1	12/7/2022 11:08:30 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/7/2022 3:36:00 PM
Surr: BFB	103	37.7-212		%Rec	1	12/7/2022 3:36:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 3:36:00 PM
Toluene	ND	0.047		mg/Kg	1	12/7/2022 3:36:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/7/2022 3:36:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	12/7/2022 3:36:00 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	12/7/2022 3:36:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/7/2022 8:18:10 PM

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

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

Page 21 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-06 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:00:00 AM

Lab ID: 2212211-022

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 11:22:06 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 11:22:06 PM
Surr: DNOP	106	21-129		%Rec	1	12/7/2022 11:22:06 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/7/2022 3:56:00 PM
Surr: BFB	99.9	37.7-212		%Rec	1	12/7/2022 3:56:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.023		mg/Kg	1	12/7/2022 3:56:00 PM
Toluene	ND	0.047		mg/Kg	1	12/7/2022 3:56:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/7/2022 3:56:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/7/2022 3:56:00 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/7/2022 3:56:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/7/2022 8:55:13 PM

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

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

Page 22 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-07 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:05:00 AM

Lab ID: 2212211-023

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 11:49:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 11:49:13 PM
Surr: DNOP	106	21-129		%Rec	1	12/7/2022 11:49:13 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 4:16:00 PM
Surr: BFB	105	37.7-212		%Rec	1	12/7/2022 4:16:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 4:16:00 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 4:16:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 4:16:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2022 4:16:00 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	12/7/2022 4:16:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	67	60		mg/Kg	20	12/7/2022 9:07:33 PM

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

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

Page 23 of 167



Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2212211  
Date Reported: 12/15/2022

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BS22-08 4'  
Project: SDE 31 Federal 009      Collection Date: 12/2/2022 8:05:00 AM  
Lab ID: 2212211-024      Matrix: SOIL      Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 12:02:50 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 12:02:50 AM
Surr: DNOP	115	21-129		%Rec	1	12/8/2022 12:02:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/7/2022 4:35:00 PM
Surr: BFB	110	37.7-212		%Rec	1	12/7/2022 4:35:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	12/7/2022 4:35:00 PM
Toluene	ND	0.046		mg/Kg	1	12/7/2022 4:35:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	12/7/2022 4:35:00 PM
Xylenes, Total	ND	0.092		mg/Kg	1	12/7/2022 4:35:00 PM
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	12/7/2022 4:35:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/7/2022 9:19:54 PM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-09 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:10:00 AM

Lab ID: 2212211-025

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 12:16:38 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 12:16:38 AM
Surr: DNOP	104	21-129		%Rec	1	12/8/2022 12:16:38 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/7/2022 5:15:00 PM
Surr: BFB	105	37.7-212		%Rec	1	12/7/2022 5:15:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 5:15:00 PM
Toluene	ND	0.048		mg/Kg	1	12/7/2022 5:15:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/7/2022 5:15:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/7/2022 5:15:00 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	12/7/2022 5:15:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/7/2022 9:32:15 PM

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

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

Page 25 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-10 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:10:00 AM

Lab ID: 2212211-026

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 12:30:15 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 12:30:15 AM
Surr: DNOP	105	21-129		%Rec	1	12/8/2022 12:30:15 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 5:34:00 PM
Surr: BFB	102	37.7-212		%Rec	1	12/7/2022 5:34:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/7/2022 5:34:00 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 5:34:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 5:34:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2022 5:34:00 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	12/7/2022 5:34:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/7/2022 9:44:35 PM

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

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

Page 26 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-11 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:15:00 AM

Lab ID: 2212211-027

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 12:43:45 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 12:43:45 AM
Surr: DNOP	96.1	21-129		%Rec	1	12/8/2022 12:43:45 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 5:54:00 PM
Surr: BFB	104	37.7-212		%Rec	1	12/7/2022 5:54:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 5:54:00 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 5:54:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 5:54:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/7/2022 5:54:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/7/2022 5:54:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/7/2022 9:56:56 PM

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

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

Page 27 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-12 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:15:00 AM

Lab ID: 2212211-028

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 12:57:08 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 12:57:08 AM
Surr: DNOP	99.4	21-129		%Rec	1	12/8/2022 12:57:08 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 6:14:00 PM
Surr: BFB	95.5	37.7-212		%Rec	1	12/7/2022 6:14:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/7/2022 6:14:00 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 6:14:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 6:14:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 6:14:00 PM
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	12/7/2022 6:14:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 11:28:33 AM

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

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

Page 28 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-13 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:20:00 AM

Lab ID: 2212211-029

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 1:10:25 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 1:10:25 AM
Surr: DNOP	107	21-129		%Rec	1	12/8/2022 1:10:25 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 6:33:00 PM
Surr: BFB	97.2	37.7-212		%Rec	1	12/7/2022 6:33:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 6:33:00 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 6:33:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 6:33:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2022 6:33:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/7/2022 6:33:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 12:05:46 PM

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

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

Page 29 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-14 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:20:00 AM

Lab ID: 2212211-030

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 1:23:35 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 1:23:35 AM
Surr: DNOP	103	21-129		%Rec	1	12/8/2022 1:23:35 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/7/2022 6:53:00 PM
Surr: BFB	108	37.7-212		%Rec	1	12/7/2022 6:53:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 6:53:00 PM
Toluene	ND	0.048		mg/Kg	1	12/7/2022 6:53:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/7/2022 6:53:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/7/2022 6:53:00 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	12/7/2022 6:53:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 12:43:00 PM

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

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

Page 30 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-15 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:25:00 AM

Lab ID: 2212211-031

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 1:36:48 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 1:36:48 AM
Surr: DNOP	100	21-129		%Rec	1	12/8/2022 1:36:48 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 7:13:00 PM
Surr: BFB	104	37.7-212		%Rec	1	12/7/2022 7:13:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 7:13:00 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 7:13:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 7:13:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/7/2022 7:13:00 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	12/7/2022 7:13:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 12:55:24 PM

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

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

Page 31 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-16 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:25:00 AM

Lab ID: 2212211-032

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 1:49:51 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 1:49:51 AM
Surr: DNOP	100	21-129		%Rec	1	12/8/2022 1:49:51 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 7:32:00 PM
Surr: BFB	101	37.7-212		%Rec	1	12/7/2022 7:32:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/7/2022 7:32:00 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 7:32:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 7:32:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 7:32:00 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/7/2022 7:32:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 1:32:37 PM

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

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

Page 32 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-17 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:30:00 AM

Lab ID: 2212211-033

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	12/8/2022 2:02:54 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/8/2022 2:02:54 AM
Surr: DNOP	98.4	21-129		%Rec	1	12/8/2022 2:02:54 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/7/2022 7:52:00 PM
Surr: BFB	98.6	37.7-212		%Rec	1	12/7/2022 7:52:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 7:52:00 PM
Toluene	ND	0.048		mg/Kg	1	12/7/2022 7:52:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/7/2022 7:52:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/7/2022 7:52:00 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/7/2022 7:52:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 1:45:01 PM

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

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

Page 33 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-18 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:30:00 AM

Lab ID: 2212211-034

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 2:15:52 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 2:15:52 AM
Surr: DNOP	107	21-129		%Rec	1	12/8/2022 2:15:52 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/7/2022 8:12:00 PM
Surr: BFB	104	37.7-212		%Rec	1	12/7/2022 8:12:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/7/2022 8:12:00 PM
Toluene	ND	0.049		mg/Kg	1	12/7/2022 8:12:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/7/2022 8:12:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/7/2022 8:12:00 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	12/7/2022 8:12:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 1:57:25 PM

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

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

Page 34 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-19 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:35:00 AM

Lab ID: 2212211-035

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 8:38:03 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 8:38:03 AM
Surr: DNOP	80.4	21-129		%Rec	1	12/7/2022 8:38:03 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 10:09:00 PM
Surr: BFB	101	37.7-212		%Rec	1	12/7/2022 10:09:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/7/2022 10:09:00 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 10:09:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 10:09:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/7/2022 10:09:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/7/2022 10:09:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	59		mg/Kg	20	12/8/2022 2:09:50 PM

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

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

Page 35 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-20 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:35:00 AM

Lab ID: 2212211-036

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 9:18:39 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/7/2022 9:18:39 AM
Surr: DNOP	94.7	21-129		%Rec	1	12/7/2022 9:18:39 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 11:09:00 PM
Surr: BFB	109	37.7-212		%Rec	1	12/7/2022 11:09:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/7/2022 11:09:00 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 11:09:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 11:09:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 11:09:00 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	12/7/2022 11:09:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 2:22:14 PM

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

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

Page 36 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-21 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:40:00 AM

Lab ID: 2212211-037

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 9:32:21 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/7/2022 9:32:21 AM
Surr: DNOP	92.5	21-129		%Rec	1	12/7/2022 9:32:21 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 12:07:00 AM
Surr: BFB	100	37.7-212		%Rec	1	12/8/2022 12:07:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 12:07:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 12:07:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 12:07:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 12:07:00 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/8/2022 12:07:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 2:34:38 PM

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

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

Page 37 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-22 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:40:00 AM

Lab ID: 2212211-038

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 9:46:00 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/7/2022 9:46:00 AM
Surr: DNOP	84.6	21-129		%Rec	1	12/7/2022 9:46:00 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 12:27:00 AM
Surr: BFB	98.9	37.7-212		%Rec	1	12/8/2022 12:27:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 12:27:00 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 12:27:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 12:27:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 12:27:00 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	12/8/2022 12:27:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	61		mg/Kg	20	12/8/2022 3:11:51 PM

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

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

Page 38 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-23 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:55:00 AM

Lab ID: 2212211-039

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 9:59:34 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 9:59:34 AM
Surr: DNOP	95.5	21-129		%Rec	1	12/7/2022 9:59:34 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 12:47:00 AM
Surr: BFB	99.8	37.7-212		%Rec	1	12/8/2022 12:47:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 12:47:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 12:47:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 12:47:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 12:47:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/8/2022 12:47:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 3:24:16 PM

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

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

Page 39 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-24 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 8:55:00 AM

Lab ID: 2212211-040

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 10:12:59 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 10:12:59 AM
Surr: DNOP	94.6	21-129		%Rec	1	12/7/2022 10:12:59 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 1:06:00 AM
Surr: BFB	104	37.7-212		%Rec	1	12/8/2022 1:06:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 1:06:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 1:06:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 1:06:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 1:06:00 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	12/8/2022 1:06:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 3:36:40 PM

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

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

Page 40 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-25 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:00:00 AM

Lab ID: 2212211-041

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 10:27:03 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/7/2022 10:27:03 AM
Surr: DNOP	112	21-129		%Rec	1	12/7/2022 10:27:03 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 1:26:00 AM
Surr: BFB	102	37.7-212		%Rec	1	12/8/2022 1:26:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 1:26:00 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 1:26:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 1:26:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 1:26:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/8/2022 1:26:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 3:49:04 PM

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

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

Page 41 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-26 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:00:00 AM

Lab ID: 2212211-042

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 10:54:34 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 10:54:34 AM
Surr: DNOP	92.0	21-129		%Rec	1	12/7/2022 10:54:34 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 1:46:00 AM
Surr: BFB	107	37.7-212		%Rec	1	12/8/2022 1:46:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 1:46:00 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 1:46:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 1:46:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 1:46:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/8/2022 1:46:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 4:01:28 PM

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

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

Page 42 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-27 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:05:00 AM

Lab ID: 2212211-043

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 11:08:03 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 11:08:03 AM
Surr: DNOP	122	21-129		%Rec	1	12/7/2022 11:08:03 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 2:06:00 AM
Surr: BFB	101	37.7-212		%Rec	1	12/8/2022 2:06:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 2:06:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 2:06:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 2:06:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 2:06:00 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	12/8/2022 2:06:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 4:13:53 PM

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

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

Page 43 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-28 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:05:00 AM

Lab ID: 2212211-044

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 11:21:34 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 11:21:34 AM
Surr: DNOP	95.1	21-129		%Rec	1	12/7/2022 11:21:34 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 2:25:00 AM
Surr: BFB	105	37.7-212		%Rec	1	12/8/2022 2:25:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 2:25:00 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 2:25:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 2:25:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 2:25:00 AM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	12/8/2022 2:25:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 4:26:17 PM

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

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

Page 44 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-29 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:10:00 AM

Lab ID: 2212211-045

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 11:35:17 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	12/7/2022 11:35:17 AM
Surr: DNOP	96.9	21-129		%Rec	1	12/7/2022 11:35:17 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 3:05:00 AM
Surr: BFB	107	37.7-212		%Rec	1	12/8/2022 3:05:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 3:05:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 3:05:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 3:05:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 3:05:00 AM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	12/8/2022 3:05:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 5:03:30 PM

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

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

Page 45 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-30 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:10:00 AM

Lab ID: 2212211-046

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 11:49:16 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 11:49:16 AM
Surr: DNOP	90.9	21-129		%Rec	1	12/7/2022 11:49:16 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 3:24:00 AM
Surr: BFB	98.6	37.7-212		%Rec	1	12/8/2022 3:24:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 3:24:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 3:24:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 3:24:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 3:24:00 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/8/2022 3:24:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 6:05:32 PM

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

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

Page 46 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-31 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:15:00 AM

Lab ID: 2212211-047

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 12:02:46 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 12:02:46 PM
Surr: DNOP	93.8	21-129		%Rec	1	12/7/2022 12:02:46 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 3:44:00 AM
Surr: BFB	207	37.7-212		%Rec	1	12/8/2022 3:44:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 3:44:00 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 3:44:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 3:44:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 3:44:00 AM
Surr: 4-Bromofluorobenzene	217	70-130	S	%Rec	1	12/8/2022 3:44:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	510	60		mg/Kg	20	12/8/2022 6:42:45 PM

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

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

Page 47 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-32 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:15:00 AM

Lab ID: 2212211-048

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 12:16:37 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 12:16:37 PM
Surr: DNOP	100	21-129		%Rec	1	12/7/2022 12:16:37 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 4:04:00 AM
Surr: BFB	99.6	37.7-212		%Rec	1	12/8/2022 4:04:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 4:04:00 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 4:04:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 4:04:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 4:04:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/8/2022 4:04:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	61		mg/Kg	20	12/8/2022 6:55:10 PM

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

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

Page 48 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-33 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:20:00 AM

Lab ID: 2212211-049

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 12:30:44 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 12:30:44 PM
Surr: DNOP	95.3	21-129		%Rec	1	12/7/2022 12:30:44 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 4:23:00 AM
Surr: BFB	104	37.7-212		%Rec	1	12/8/2022 4:23:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 4:23:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 4:23:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 4:23:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 4:23:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/8/2022 4:23:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 7:07:34 PM

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

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

Page 49 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-34 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:20:00 AM

Lab ID: 2212211-050

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 12:44:30 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 12:44:30 PM
Surr: DNOP	92.2	21-129		%Rec	1	12/7/2022 12:44:30 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 4:43:00 AM
Surr: BFB	101	37.7-212		%Rec	1	12/8/2022 4:43:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 4:43:00 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 4:43:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 4:43:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 4:43:00 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	12/8/2022 4:43:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 7:19:59 PM

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

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

Page 50 of 167



Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2212211  
Date Reported: 12/15/2022

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BS22-35 4'  
Project: SDE 31 Federal 009      Collection Date: 12/2/2022 9:25:00 AM  
Lab ID: 2212211-051      Matrix: SOIL      Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 12:58:16 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 12:58:16 PM
Surr: DNOP	93.2	21-129		%Rec	1	12/7/2022 12:58:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 5:03:00 AM
Surr: BFB	101	37.7-212		%Rec	1	12/8/2022 5:03:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/8/2022 5:03:00 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 5:03:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 5:03:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 5:03:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/8/2022 5:03:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/8/2022 7:32:23 PM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-36 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:25:00 AM

Lab ID: 2212211-052

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 1:11:55 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 1:11:55 PM
Surr: DNOP	95.1	21-129		%Rec	1	12/7/2022 1:11:55 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 5:22:00 AM
Surr: BFB	99.9	37.7-212		%Rec	1	12/8/2022 5:22:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 5:22:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 5:22:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 5:22:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 5:22:00 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	12/8/2022 5:22:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 8:09:36 PM

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

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

Page 52 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-37 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:30:00 AM

Lab ID: 2212211-053

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 1:25:32 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 1:25:32 PM
Surr: DNOP	93.1	21-129		%Rec	1	12/7/2022 1:25:32 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 5:42:00 AM
Surr: BFB	104	37.7-212		%Rec	1	12/8/2022 5:42:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 5:42:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 5:42:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 5:42:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 5:42:00 AM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	12/8/2022 5:42:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	100	60		mg/Kg	20	12/8/2022 8:22:01 PM

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

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

Page 53 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-38 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:30:00 AM

Lab ID: 2212211-054

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 1:39:18 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 1:39:18 PM
Surr: DNOP	94.2	21-129		%Rec	1	12/7/2022 1:39:18 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 6:02:00 AM
Surr: BFB	100	37.7-212		%Rec	1	12/8/2022 6:02:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 6:02:00 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 6:02:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 6:02:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 6:02:00 AM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	12/8/2022 6:02:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 8:34:25 PM

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

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

Page 54 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-39 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:35:00 AM

Lab ID: 2212211-055

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 2:34:11 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 2:34:11 PM
Surr: DNOP	101	21-129		%Rec	1	12/7/2022 2:34:11 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 10:09:00 PM
Surr: BFB	91.3	37.7-212		%Rec	1	12/7/2022 10:09:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/7/2022 10:09:00 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 10:09:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 10:09:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/7/2022 10:09:00 PM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	12/7/2022 10:09:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	89	60		mg/Kg	20	12/8/2022 8:46:49 PM

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

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

Page 55 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-40 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:35:00 AM

Lab ID: 2212211-056

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 3:15:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 3:15:03 PM
Surr: DNOP	109	21-129		%Rec	1	12/7/2022 3:15:03 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/7/2022 11:19:29 PM
Surr: BFB	93.6	37.7-212		%Rec	1	12/7/2022 11:19:29 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/7/2022 11:19:29 PM
Toluene	ND	0.050		mg/Kg	1	12/7/2022 11:19:29 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/7/2022 11:19:29 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/7/2022 11:19:29 PM
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	1	12/7/2022 11:19:29 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	180	60		mg/Kg	20	12/8/2022 8:59:13 PM

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

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

Page 56 of 167



CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-41 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:40:00 AM

Lab ID: 2212211-057

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 3:28:40 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/7/2022 3:28:40 PM
Surr: DNOP	118	21-129		%Rec	1	12/7/2022 3:28:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 12:30:07 AM
Surr: BFB	92.6	37.7-212		%Rec	1	12/8/2022 12:30:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/8/2022 12:30:07 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 12:30:07 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 12:30:07 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 12:30:07 AM
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	1	12/8/2022 12:30:07 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	280	60		mg/Kg	20	12/8/2022 9:11:37 PM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-42 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:40:00 AM

Lab ID: 2212211-058

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 3:42:16 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 3:42:16 PM
Surr: DNOP	119	21-129		%Rec	1	12/7/2022 3:42:16 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 12:53:36 AM
Surr: BFB	92.7	37.7-212		%Rec	1	12/8/2022 12:53:36 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 12:53:36 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 12:53:36 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 12:53:36 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 12:53:36 AM
Surr: 4-Bromofluorobenzene	93.3	70-130		%Rec	1	12/8/2022 12:53:36 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	280	60		mg/Kg	20	12/8/2022 9:24:01 PM

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

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

Page 58 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-43 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:45:00 AM

Lab ID: 2212211-059

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 3:55:47 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/7/2022 3:55:47 PM
Surr: DNOP	101	21-129		%Rec	1	12/7/2022 3:55:47 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 1:16:55 AM
Surr: BFB	95.3	37.7-212		%Rec	1	12/8/2022 1:16:55 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 1:16:55 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 1:16:55 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 1:16:55 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 1:16:55 AM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	12/8/2022 1:16:55 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	430	60		mg/Kg	20	12/8/2022 9:36:25 PM

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

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

Page 59 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-44 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 9:45:00 AM

Lab ID: 2212211-060

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 4:09:23 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/7/2022 4:09:23 PM
Surr: DNOP	96.5	21-129		%Rec	1	12/7/2022 4:09:23 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/8/2022 1:40:27 AM
Surr: BFB	90.6	37.7-212		%Rec	1	12/8/2022 1:40:27 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 1:40:27 AM
Toluene	ND	0.047		mg/Kg	1	12/8/2022 1:40:27 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/8/2022 1:40:27 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/8/2022 1:40:27 AM
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	12/8/2022 1:40:27 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	330	60		mg/Kg	20	12/8/2022 9:48:50 PM

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

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

Page 60 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-45 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:00:00 AM

Lab ID: 2212211-061

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	51	15		mg/Kg	1	12/7/2022 4:23:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 4:23:17 PM
Surr: DNOP	106	21-129		%Rec	1	12/7/2022 4:23:17 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 2:03:58 AM
Surr: BFB	89.9	37.7-212		%Rec	1	12/8/2022 2:03:58 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 2:03:58 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 2:03:58 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 2:03:58 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 2:03:58 AM
Surr: 4-Bromofluorobenzene	90.6	70-130		%Rec	1	12/8/2022 2:03:58 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 10:01:14 PM

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

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

Page 61 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-46 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:00:00 AM

Lab ID: 2212211-062

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 4:36:48 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/7/2022 4:36:48 PM
Surr: DNOP	106	21-129		%Rec	1	12/7/2022 4:36:48 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 2:27:28 AM
Surr: BFB	92.3	37.7-212		%Rec	1	12/8/2022 2:27:28 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 2:27:28 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 2:27:28 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 2:27:28 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 2:27:28 AM
Surr: 4-Bromofluorobenzene	94.0	70-130		%Rec	1	12/8/2022 2:27:28 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 10:38:27 PM

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

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

Page 62 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-47 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:05:00 AM

Lab ID: 2212211-063

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 5:58:25 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/7/2022 5:58:25 PM
Surr: DNOP	113	21-129		%Rec	1	12/7/2022 5:58:25 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/8/2022 2:51:01 AM
Surr: BFB	90.9	37.7-212		%Rec	1	12/8/2022 2:51:01 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 2:51:01 AM
Toluene	ND	0.048		mg/Kg	1	12/8/2022 2:51:01 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/8/2022 2:51:01 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/8/2022 2:51:01 AM
Surr: 4-Bromofluorobenzene	93.4	70-130		%Rec	1	12/8/2022 2:51:01 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 10:50:52 PM

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

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

Page 63 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-48 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:05:00 AM

Lab ID: 2212211-064

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 6:11:48 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 6:11:48 PM
Surr: DNOP	98.2	21-129		%Rec	1	12/7/2022 6:11:48 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/8/2022 3:14:24 AM
Surr: BFB	90.8	37.7-212		%Rec	1	12/8/2022 3:14:24 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 3:14:24 AM
Toluene	ND	0.048		mg/Kg	1	12/8/2022 3:14:24 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/8/2022 3:14:24 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/8/2022 3:14:24 AM
Surr: 4-Bromofluorobenzene	93.3	70-130		%Rec	1	12/8/2022 3:14:24 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CAS</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 11:03:16 PM

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

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

Page 64 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-49 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:10:00 AM

Lab ID: 2212211-065

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 6:25:09 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 6:25:09 PM
Surr: DNOP	97.3	21-129		%Rec	1	12/7/2022 6:25:09 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 4:01:20 AM
Surr: BFB	90.8	37.7-212		%Rec	1	12/8/2022 4:01:20 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 4:01:20 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 4:01:20 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 4:01:20 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 4:01:20 AM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	12/8/2022 4:01:20 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 9:44:17 PM

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

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

Page 65 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-50 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:10:00 AM

Lab ID: 2212211-066

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 6:38:29 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 6:38:29 PM
Surr: DNOP	109	21-129		%Rec	1	12/7/2022 6:38:29 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 4:24:45 AM
Surr: BFB	91.5	37.7-212		%Rec	1	12/8/2022 4:24:45 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 4:24:45 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 4:24:45 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 4:24:45 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 4:24:45 AM
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	1	12/8/2022 4:24:45 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 10:21:18 PM

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

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

Page 66 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-51 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:15:00 AM

Lab ID: 2212211-067

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 6:51:47 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 6:51:47 PM
Surr: DNOP	106	21-129		%Rec	1	12/7/2022 6:51:47 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/8/2022 4:48:12 AM
Surr: BFB	90.8	37.7-212		%Rec	1	12/8/2022 4:48:12 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 4:48:12 AM
Toluene	ND	0.047		mg/Kg	1	12/8/2022 4:48:12 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/8/2022 4:48:12 AM
Xylenes, Total	ND	0.095		mg/Kg	1	12/8/2022 4:48:12 AM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	12/8/2022 4:48:12 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 11:23:01 PM

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

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

Page 67 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-52 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:15:00 AM

Lab ID: 2212211-068

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 7:05:06 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 7:05:06 PM
Surr: DNOP	106	21-129		%Rec	1	12/7/2022 7:05:06 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 5:11:45 AM
Surr: BFB	90.2	37.7-212		%Rec	1	12/8/2022 5:11:45 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 5:11:45 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 5:11:45 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 5:11:45 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 5:11:45 AM
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	12/8/2022 5:11:45 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	59		mg/Kg	20	12/8/2022 11:35:22 PM

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

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

Page 68 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-53 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:20:00 AM

Lab ID: 2212211-069

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 7:18:22 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/7/2022 7:18:22 PM
Surr: DNOP	102	21-129		%Rec	1	12/7/2022 7:18:22 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/8/2022 9:34:42 AM
Surr: BFB	90.8	37.7-212		%Rec	1	12/8/2022 9:34:42 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 9:34:42 AM
Toluene	ND	0.048		mg/Kg	1	12/8/2022 9:34:42 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/8/2022 9:34:42 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/8/2022 9:34:42 AM
Surr: 4-Bromofluorobenzene	92.8	70-130		%Rec	1	12/8/2022 9:34:42 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/8/2022 11:47:42 PM

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

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

Page 69 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-54 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:20:00 AM

Lab ID: 2212211-070

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 7:31:39 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 7:31:39 PM
Surr: DNOP	107	21-129		%Rec	1	12/7/2022 7:31:39 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 9:58:13 AM
Surr: BFB	94.3	37.7-212		%Rec	1	12/8/2022 9:58:13 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 9:58:13 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 9:58:13 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 9:58:13 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 9:58:13 AM
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	12/8/2022 9:58:13 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 12:00:04 AM

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

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

Page 70 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-55 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:25:00 AM

Lab ID: 2212211-071

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 7:44:49 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2022 7:44:49 PM
Surr: DNOP	103	21-129		%Rec	1	12/7/2022 7:44:49 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 10:21:45 AM
Surr: BFB	91.1	37.7-212		%Rec	1	12/8/2022 10:21:45 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 10:21:45 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 10:21:45 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 10:21:45 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 10:21:45 AM
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	12/8/2022 10:21:45 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 12:12:24 AM

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

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

Page 71 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-56 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:25:00 AM

Lab ID: 2212211-072

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 7:57:56 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 7:57:56 PM
Surr: DNOP	119	21-129		%Rec	1	12/7/2022 7:57:56 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 10:45:21 AM
Surr: BFB	90.4	37.7-212		%Rec	1	12/8/2022 10:45:21 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 10:45:21 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 10:45:21 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 10:45:21 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 10:45:21 AM
Surr: 4-Bromofluorobenzene	93.3	70-130		%Rec	1	12/8/2022 10:45:21 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	59		mg/Kg	20	12/9/2022 12:24:46 AM

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

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

Page 72 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-57 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:30:00 AM

Lab ID: 2212211-073

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/7/2022 8:11:08 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2022 8:11:08 PM
Surr: DNOP	107	21-129		%Rec	1	12/7/2022 8:11:08 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 11:08:48 AM
Surr: BFB	90.6	37.7-212		%Rec	1	12/8/2022 11:08:48 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 11:08:48 AM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 11:08:48 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 11:08:48 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 11:08:48 AM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	12/8/2022 11:08:48 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 12:37:06 AM

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

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

Page 73 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-58 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:30:00 AM

Lab ID: 2212211-074

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/7/2022 8:24:10 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2022 8:24:10 PM
Surr: DNOP	108	21-129		%Rec	1	12/7/2022 8:24:10 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 11:32:09 AM
Surr: BFB	95.5	37.7-212		%Rec	1	12/8/2022 11:32:09 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 11:32:09 AM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 11:32:09 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 11:32:09 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 11:32:09 AM
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	12/8/2022 11:32:09 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 12:49:27 AM

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

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

Page 74 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-59 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:35:00 AM

Lab ID: 2212211-075

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 9:42:45 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 9:42:45 AM
Surr: DNOP	99.3	21-129		%Rec	1	12/8/2022 9:42:45 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 5:42:00 PM
Surr: BFB	102	37.7-212		%Rec	1	12/8/2022 5:42:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 5:42:00 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 5:42:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 5:42:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 5:42:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/8/2022 5:42:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 1:01:47 AM

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

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

Page 75 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-60 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:35:00 AM

Lab ID: 2212211-076

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 10:23:55 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 10:23:55 AM
Surr: DNOP	112	21-129		%Rec	1	12/8/2022 10:23:55 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 6:41:00 PM
Surr: BFB	99.1	37.7-212		%Rec	1	12/8/2022 6:41:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 6:41:00 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 6:41:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 6:41:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 6:41:00 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/8/2022 6:41:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	120	59		mg/Kg	20	12/9/2022 1:14:08 AM

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

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

Page 76 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-61 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:40:00 AM

Lab ID: 2212211-077

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	47	15		mg/Kg	1	12/8/2022 10:37:53 AM
Motor Oil Range Organics (MRO)	76	49		mg/Kg	1	12/8/2022 10:37:53 AM
Surr: DNOP	108	21-129		%Rec	1	12/8/2022 10:37:53 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 7:40:00 PM
Surr: BFB	100	37.7-212		%Rec	1	12/8/2022 7:40:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 7:40:00 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 7:40:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 7:40:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 7:40:00 PM
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	12/8/2022 7:40:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 1:51:09 AM

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

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

Page 77 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-62 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:40:00 AM

Lab ID: 2212211-078

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 10:51:42 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 10:51:42 AM
Surr: DNOP	116	21-129		%Rec	1	12/8/2022 10:51:42 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 7:59:00 PM
Surr: BFB	99.3	37.7-212		%Rec	1	12/8/2022 7:59:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 7:59:00 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 7:59:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 7:59:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 7:59:00 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/8/2022 7:59:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 2:03:31 AM

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

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

Page 78 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-63 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:45:00 AM

Lab ID: 2212211-079

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 11:05:52 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 11:05:52 AM
Surr: DNOP	106	21-129		%Rec	1	12/8/2022 11:05:52 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 8:19:00 PM
Surr: BFB	99.0	37.7-212		%Rec	1	12/8/2022 8:19:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 8:19:00 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 8:19:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 8:19:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 8:19:00 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/8/2022 8:19:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	230	60		mg/Kg	20	12/9/2022 2:15:52 AM

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

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

Page 79 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-64 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:45:00 AM

Lab ID: 2212211-080

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 11:19:51 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 11:19:51 AM
Surr: DNOP	101	21-129		%Rec	1	12/8/2022 11:19:51 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 8:39:00 PM
Surr: BFB	98.4	37.7-212		%Rec	1	12/8/2022 8:39:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 8:39:00 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 8:39:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 8:39:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 8:39:00 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/8/2022 8:39:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 2:28:13 AM

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

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

Page 80 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-65 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:50:00 AM

Lab ID: 2212211-081

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 11:33:37 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/8/2022 11:33:37 AM
Surr: DNOP	98.0	21-129		%Rec	1	12/8/2022 11:33:37 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 8:58:00 PM
Surr: BFB	102	37.7-212		%Rec	1	12/8/2022 8:58:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 8:58:00 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 8:58:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 8:58:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 8:58:00 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/8/2022 8:58:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 2:40:33 AM

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

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

Page 81 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-66 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 10:50:00 AM

Lab ID: 2212211-082

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 12:01:46 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 12:01:46 PM
Surr: DNOP	99.0	21-129		%Rec	1	12/8/2022 12:01:46 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 9:18:00 PM
Surr: BFB	96.7	37.7-212		%Rec	1	12/8/2022 9:18:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 9:18:00 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 9:18:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 9:18:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 9:18:00 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/8/2022 9:18:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	180	60		mg/Kg	20	12/9/2022 2:52:53 AM

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

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

Page 82 of 167



Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2212211  
Date Reported: 12/15/2022

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BS22-67 4'  
Project: SDE 31 Federal 009      Collection Date: 12/2/2022 11:00:00 AM  
Lab ID: 2212211-083      Matrix: SOIL      Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	12/8/2022 2:05:27 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/8/2022 2:05:27 PM
Surr: DNOP	99.3	21-129		%Rec	1	12/8/2022 2:05:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 9:38:00 PM
Surr: BFB	98.3	37.7-212		%Rec	1	12/8/2022 9:38:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/8/2022 9:38:00 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 9:38:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 9:38:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 9:38:00 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/8/2022 9:38:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	12/9/2022 3:05:14 AM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-68 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 11:00:00 AM

Lab ID: 2212211-084

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 2:19:23 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 2:19:23 PM
Surr: DNOP	99.7	21-129		%Rec	1	12/8/2022 2:19:23 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 9:58:00 PM
Surr: BFB	99.2	37.7-212		%Rec	1	12/8/2022 9:58:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 9:58:00 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 9:58:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 9:58:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 9:58:00 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/8/2022 9:58:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 3:17:35 AM

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

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

Page 84 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-69 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 11:05:00 AM

Lab ID: 2212211-085

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 2:33:01 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 2:33:01 PM
Surr: DNOP	102	21-129		%Rec	1	12/8/2022 2:33:01 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 10:37:00 PM
Surr: BFB	95.4	37.7-212		%Rec	1	12/8/2022 10:37:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 10:37:00 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 10:37:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 10:37:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 10:37:00 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/8/2022 10:37:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	170	60		mg/Kg	20	12/9/2022 8:46:26 AM

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

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

Page 85 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-70 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 11:05:00 AM

Lab ID: 2212211-086

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 2:47:01 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 2:47:01 PM
Surr: DNOP	98.4	21-129		%Rec	1	12/8/2022 2:47:01 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 10:56:00 PM
Surr: BFB	98.8	37.7-212		%Rec	1	12/8/2022 10:56:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 10:56:00 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 10:56:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 10:56:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 10:56:00 PM
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	12/8/2022 10:56:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 9:23:27 AM

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

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

Page 86 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-71 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 11:10:00 AM

Lab ID: 2212211-087

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 3:01:10 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 3:01:10 PM
Surr: DNOP	102	21-129		%Rec	1	12/8/2022 3:01:10 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 11:16:00 PM
Surr: BFB	93.1	37.7-212		%Rec	1	12/8/2022 11:16:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 11:16:00 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 11:16:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 11:16:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 11:16:00 PM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	12/8/2022 11:16:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	66	60		mg/Kg	20	12/9/2022 10:00:29 AM

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

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

Page 87 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-72 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 11:10:00 AM

Lab ID: 2212211-088

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/12/2022 12:55:53 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/12/2022 12:55:53 PM
Surr: DNOP	115	21-129		%Rec	1	12/12/2022 12:55:53 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 11:35:00 PM
Surr: BFB	96.9	37.7-212		%Rec	1	12/8/2022 11:35:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 11:35:00 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 11:35:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 11:35:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 11:35:00 PM
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	12/8/2022 11:35:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 10:12:51 AM

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

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

Page 88 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-73 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 11:15:00 AM

Lab ID: 2212211-089

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	12/8/2022 3:28:45 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/8/2022 3:28:45 PM
Surr: DNOP	96.0	21-129		%Rec	1	12/8/2022 3:28:45 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 11:55:00 PM
Surr: BFB	93.8	37.7-212		%Rec	1	12/8/2022 11:55:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 11:55:00 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 11:55:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 11:55:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 11:55:00 PM
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	12/8/2022 11:55:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	490	59		mg/Kg	20	12/9/2022 10:49:52 AM

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

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

Page 89 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-74 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 11:15:00 AM

Lab ID: 2212211-090

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 3:42:35 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 3:42:35 PM
Surr: DNOP	119	21-129		%Rec	1	12/8/2022 3:42:35 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 12:15:00 AM
Surr: BFB	95.2	37.7-212		%Rec	1	12/9/2022 12:15:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 12:15:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 12:15:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 12:15:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 12:15:00 AM
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	12/9/2022 12:15:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 11:02:12 AM

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

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

Page 90 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-75 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 11:20:00 AM

Lab ID: 2212211-091

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 3:56:23 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 3:56:23 PM
Surr: DNOP	111	21-129		%Rec	1	12/8/2022 3:56:23 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 12:34:00 AM
Surr: BFB	90.9	37.7-212		%Rec	1	12/9/2022 12:34:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 12:34:00 AM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 12:34:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 12:34:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/9/2022 12:34:00 AM
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	12/9/2022 12:34:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 11:14:33 AM

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

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

Page 91 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-76 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 11:20:00 AM

Lab ID: 2212211-092

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 4:10:16 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 4:10:16 PM
Surr: DNOP	106	21-129		%Rec	1	12/8/2022 4:10:16 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 12:54:00 AM
Surr: BFB	98.1	37.7-212		%Rec	1	12/9/2022 12:54:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 12:54:00 AM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 12:54:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 12:54:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 12:54:00 AM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	12/9/2022 12:54:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	200	60		mg/Kg	20	12/9/2022 11:26:53 AM

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

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

Page 92 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-77 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:30:00 PM

Lab ID: 2212211-093

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	12/8/2022 4:23:54 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/8/2022 4:23:54 PM
Surr: DNOP	121	21-129		%Rec	1	12/8/2022 4:23:54 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 1:13:00 AM
Surr: BFB	95.2	37.7-212		%Rec	1	12/9/2022 1:13:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 1:13:00 AM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 1:13:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 1:13:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/9/2022 1:13:00 AM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	12/9/2022 1:13:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	540	60		mg/Kg	20	12/9/2022 11:39:14 AM

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

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

Page 93 of 167



Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2212211  
Date Reported: 12/15/2022

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BS22-78 4'  
Project: SDE 31 Federal 009      Collection Date: 12/2/2022 12:30:00 PM  
Lab ID: 2212211-094      Matrix: SOIL      Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 4:37:34 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/8/2022 4:37:34 PM
Surr: DNOP	107	21-129		%Rec	1	12/8/2022 4:37:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 1:33:00 AM
Surr: BFB	92.4	37.7-212		%Rec	1	12/9/2022 1:33:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/9/2022 1:33:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 1:33:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 1:33:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 1:33:00 AM
Surr: 4-Bromofluorobenzene	95.3	70-130		%Rec	1	12/9/2022 1:33:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/9/2022 11:51:35 AM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-79 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:35:00 PM

Lab ID: 2212211-095

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	12/9/2022 3:30:36 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	12/9/2022 3:30:36 PM
Surr: DNOP	113	21-129		%Rec	1	12/9/2022 3:30:36 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/8/2022 3:50:19 PM
Surr: BFB	95.4	37.7-212		%Rec	1	12/8/2022 3:50:19 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 3:50:19 PM
Toluene	ND	0.048		mg/Kg	1	12/8/2022 3:50:19 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/8/2022 3:50:19 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/8/2022 3:50:19 PM
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	12/8/2022 3:50:19 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	59		mg/Kg	20	12/9/2022 12:03:56 PM

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

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

Page 95 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-80 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:35:00 PM

Lab ID: 2212211-096

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 11:43:35 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 11:43:35 AM
Surr: DNOP	102	21-129		%Rec	1	12/8/2022 11:43:35 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 5:47:44 PM
Surr: BFB	92.4	37.7-212		%Rec	1	12/8/2022 5:47:44 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 5:47:44 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 5:47:44 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 5:47:44 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 5:47:44 PM
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	1	12/8/2022 5:47:44 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 12:16:17 PM

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

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

Page 96 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-81 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:40:00 PM

Lab ID: 2212211-097

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 12:07:32 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 12:07:32 PM
Surr: DNOP	102	21-129		%Rec	1	12/8/2022 12:07:32 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 6:58:21 PM
Surr: BFB	92.2	37.7-212		%Rec	1	12/8/2022 6:58:21 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 6:58:21 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 6:58:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 6:58:21 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 6:58:21 PM
Surr: 4-Bromofluorobenzene	94.6	70-130		%Rec	1	12/8/2022 6:58:21 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 12:28:37 PM

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

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

Page 97 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-82 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:40:00 PM

Lab ID: 2212211-098

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 12:31:28 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/8/2022 12:31:28 PM
Surr: DNOP	102	21-129		%Rec	1	12/8/2022 12:31:28 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 7:21:51 PM
Surr: BFB	91.0	37.7-212		%Rec	1	12/8/2022 7:21:51 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 7:21:51 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 7:21:51 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 7:21:51 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/8/2022 7:21:51 PM
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	1	12/8/2022 7:21:51 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 12:40:57 PM

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

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

Page 98 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-83 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:45:00 PM

Lab ID: 2212211-099

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 12:55:39 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 12:55:39 PM
Surr: DNOP	101	21-129		%Rec	1	12/8/2022 12:55:39 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 7:45:23 PM
Surr: BFB	92.9	37.7-212		%Rec	1	12/8/2022 7:45:23 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 7:45:23 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 7:45:23 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 7:45:23 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/8/2022 7:45:23 PM
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	12/8/2022 7:45:23 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 1:18:00 PM

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

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

Page 99 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-84 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:45:00 PM

Lab ID: 2212211-100

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	17	15		mg/Kg	1	12/8/2022 1:19:48 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 1:19:48 PM
Surr: DNOP	96.4	21-129		%Rec	1	12/8/2022 1:19:48 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 8:08:49 PM
Surr: BFB	93.4	37.7-212		%Rec	1	12/8/2022 8:08:49 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 8:08:49 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 8:08:49 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 8:08:49 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 8:08:49 PM
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	12/8/2022 8:08:49 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 1:30:21 PM

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

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

Page 100 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-85 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:50:00 PM

Lab ID: 2212211-101

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 1:44:00 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 1:44:00 PM
Surr: DNOP	110	21-129		%Rec	1	12/8/2022 1:44:00 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 8:32:18 PM
Surr: BFB	90.9	37.7-212		%Rec	1	12/8/2022 8:32:18 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 8:32:18 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 8:32:18 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 8:32:18 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 8:32:18 PM
Surr: 4-Bromofluorobenzene	93.8	70-130		%Rec	1	12/8/2022 8:32:18 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 1:42:41 PM

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

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

Page 101 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-86 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:50:00 PM

Lab ID: 2212211-102

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 2:08:05 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 2:08:05 PM
Surr: DNOP	90.2	21-129		%Rec	1	12/8/2022 2:08:05 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 8:55:49 PM
Surr: BFB	93.0	37.7-212		%Rec	1	12/8/2022 8:55:49 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 8:55:49 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 8:55:49 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 8:55:49 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 8:55:49 PM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	12/8/2022 8:55:49 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	360	60		mg/Kg	20	12/9/2022 1:55:02 PM

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

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

Page 102 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-87 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:55:00 PM

Lab ID: 2212211-103

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 2:32:22 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 2:32:22 PM
Surr: DNOP	100	21-129		%Rec	1	12/8/2022 2:32:22 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/8/2022 9:19:17 PM
Surr: BFB	90.7	37.7-212		%Rec	1	12/8/2022 9:19:17 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 9:19:17 PM
Toluene	ND	0.048		mg/Kg	1	12/8/2022 9:19:17 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/8/2022 9:19:17 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/8/2022 9:19:17 PM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	12/8/2022 9:19:17 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	59		mg/Kg	20	12/9/2022 2:07:23 PM

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

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

Page 103 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-88 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 12:55:00 PM

Lab ID: 2212211-104

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 2:56:30 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 2:56:30 PM
Surr: DNOP	115	21-129		%Rec	1	12/8/2022 2:56:30 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 9:42:49 PM
Surr: BFB	90.7	37.7-212		%Rec	1	12/8/2022 9:42:49 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 9:42:49 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 9:42:49 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 9:42:49 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 9:42:49 PM
Surr: 4-Bromofluorobenzene	93.4	70-130		%Rec	1	12/8/2022 9:42:49 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	320	60		mg/Kg	20	12/9/2022 2:19:44 PM

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

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

Page 104 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-89 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:00:00 PM

Lab ID: 2212211-105

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 3:20:47 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 3:20:47 PM
Surr: DNOP	101	21-129		%Rec	1	12/8/2022 3:20:47 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 10:06:15 PM
Surr: BFB	89.6	37.7-212		%Rec	1	12/8/2022 10:06:15 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 10:06:15 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 10:06:15 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 10:06:15 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/8/2022 10:06:15 PM
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	12/8/2022 10:06:15 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	1100	60		mg/Kg	20	12/9/2022 3:27:56 PM

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

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

Page 105 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-90 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:00:00 PM

Lab ID: 2212211-106

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 3:44:58 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 3:44:58 PM
Surr: DNOP	99.8	21-129		%Rec	1	12/8/2022 3:44:58 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/8/2022 11:16:31 PM
Surr: BFB	91.2	37.7-212		%Rec	1	12/8/2022 11:16:31 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/8/2022 11:16:31 PM
Toluene	ND	0.049		mg/Kg	1	12/8/2022 11:16:31 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/8/2022 11:16:31 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/8/2022 11:16:31 PM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	12/8/2022 11:16:31 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 4:05:09 PM

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

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

Page 106 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-91 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:05:00 PM

Lab ID: 2212211-107

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 4:09:16 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/8/2022 4:09:16 PM
Surr: DNOP	104	21-129		%Rec	1	12/8/2022 4:09:16 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/8/2022 11:39:55 PM
Surr: BFB	92.0	37.7-212		%Rec	1	12/8/2022 11:39:55 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/8/2022 11:39:55 PM
Toluene	ND	0.050		mg/Kg	1	12/8/2022 11:39:55 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/8/2022 11:39:55 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/8/2022 11:39:55 PM
Surr: 4-Bromofluorobenzene	94.5	70-130		%Rec	1	12/8/2022 11:39:55 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	700	60		mg/Kg	20	12/9/2022 4:17:33 PM

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

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

Page 107 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-92 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:05:00 PM

Lab ID: 2212211-108

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 4:33:21 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 4:33:21 PM
Surr: DNOP	106	21-129		%Rec	1	12/8/2022 4:33:21 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 12:03:17 AM
Surr: BFB	91.0	37.7-212		%Rec	1	12/9/2022 12:03:17 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 12:03:17 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 12:03:17 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 12:03:17 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 12:03:17 AM
Surr: 4-Bromofluorobenzene	94.5	70-130		%Rec	1	12/9/2022 12:03:17 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	1600	61		mg/Kg	20	12/9/2022 5:19:34 PM

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

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

Page 108 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-93 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:10:00 PM

Lab ID: 2212211-109

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 4:57:37 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 4:57:37 PM
Surr: DNOP	104	21-129		%Rec	1	12/8/2022 4:57:37 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 12:26:34 AM
Surr: BFB	90.5	37.7-212		%Rec	1	12/9/2022 12:26:34 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 12:26:34 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 12:26:34 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 12:26:34 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 12:26:34 AM
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	12/9/2022 12:26:34 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	850	60		mg/Kg	20	12/9/2022 5:31:58 PM

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

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

Page 109 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-94 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:10:00 PM

Lab ID: 2212211-110

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 5:21:45 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 5:21:45 PM
Surr: DNOP	101	21-129		%Rec	1	12/8/2022 5:21:45 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 12:49:54 AM
Surr: BFB	86.7	37.7-212		%Rec	1	12/9/2022 12:49:54 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 12:49:54 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 12:49:54 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 12:49:54 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 12:49:54 AM
Surr: 4-Bromofluorobenzene	89.8	70-130		%Rec	1	12/9/2022 12:49:54 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	3900	150		mg/Kg	50	12/10/2022 5:01:19 PM

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

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

Page 110 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-95 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:15:00 PM

Lab ID: 2212211-111

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 5:46:04 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/8/2022 5:46:04 PM
Surr: DNOP	98.6	21-129		%Rec	1	12/8/2022 5:46:04 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 1:13:15 AM
Surr: BFB	91.3	37.7-212		%Rec	1	12/9/2022 1:13:15 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 1:13:15 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 1:13:15 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 1:13:15 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2022 1:13:15 AM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	12/9/2022 1:13:15 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	310	60		mg/Kg	20	12/9/2022 5:56:47 PM

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

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

Page 111 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-96 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:15:00 AM

Lab ID: 2212211-112

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 6:10:11 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 6:10:11 PM
Surr: DNOP	98.9	21-129		%Rec	1	12/8/2022 6:10:11 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/9/2022 1:36:31 AM
Surr: BFB	90.2	37.7-212		%Rec	1	12/9/2022 1:36:31 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 1:36:31 AM
Toluene	ND	0.048		mg/Kg	1	12/9/2022 1:36:31 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/9/2022 1:36:31 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/9/2022 1:36:31 AM
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	1	12/9/2022 1:36:31 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	230	60		mg/Kg	20	12/9/2022 4:36:37 PM

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

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

Page 112 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-97 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:20:00 PM

Lab ID: 2212211-113

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	12/8/2022 6:34:36 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	12/8/2022 6:34:36 PM
Surr: DNOP	96.5	21-129		%Rec	1	12/8/2022 6:34:36 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/9/2022 1:59:48 AM
Surr: BFB	90.7	37.7-212		%Rec	1	12/9/2022 1:59:48 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 1:59:48 AM
Toluene	ND	0.048		mg/Kg	1	12/9/2022 1:59:48 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/9/2022 1:59:48 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/9/2022 1:59:48 AM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	12/9/2022 1:59:48 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	88	60		mg/Kg	20	12/9/2022 4:48:59 PM

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

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

Page 113 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-98 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:20:00 PM

Lab ID: 2212211-114

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 6:58:46 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 6:58:46 PM
Surr: DNOP	98.0	21-129		%Rec	1	12/8/2022 6:58:46 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 2:23:04 AM
Surr: BFB	88.1	37.7-212		%Rec	1	12/9/2022 2:23:04 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 2:23:04 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 2:23:04 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 2:23:04 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 2:23:04 AM
Surr: 4-Bromofluorobenzene	90.5	70-130		%Rec	1	12/9/2022 2:23:04 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 5:26:01 PM

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

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

Page 114 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-99 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:25:00 PM

Lab ID: 2212211-115

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 3:34:35 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 3:34:35 PM
Surr: DNOP	118	21-129		%Rec	1	12/8/2022 3:34:35 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 3:30:00 AM
Surr: BFB	93.7	37.7-212		%Rec	1	12/9/2022 3:30:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 3:30:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 3:30:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 3:30:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2022 3:30:00 AM
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	1	12/9/2022 3:30:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	1900	60		mg/Kg	20	12/9/2022 5:38:21 PM

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

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

Page 115 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-100 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:25:00 PM

Lab ID: 2212211-116

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 3:45:05 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 3:45:05 PM
Surr: DNOP	120	21-129		%Rec	1	12/8/2022 3:45:05 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 4:28:00 AM
Surr: BFB	103	37.7-212		%Rec	1	12/9/2022 4:28:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 4:28:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 4:28:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 4:28:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 4:28:00 AM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	12/9/2022 4:28:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	5000	300		mg/Kg	100	12/10/2022 5:13:39 PM

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

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

Page 116 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-101 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:30:00 PM

Lab ID: 2212211-117

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 4:16:47 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 4:16:47 PM
Surr: DNOP	117	21-129		%Rec	1	12/8/2022 4:16:47 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 5:27:00 AM
Surr: BFB	96.4	37.7-212		%Rec	1	12/9/2022 5:27:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 5:27:00 AM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 5:27:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 5:27:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 5:27:00 AM
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	12/9/2022 5:27:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	6300	300		mg/Kg	100	12/10/2022 5:26:00 PM

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

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

Page 117 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-102 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:30:00 PM

Lab ID: 2212211-118

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 4:27:24 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/8/2022 4:27:24 PM
Surr: DNOP	122	21-129		%Rec	1	12/8/2022 4:27:24 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	49		mg/Kg	1	12/9/2022 5:46:00 AM
Surr: BFB	97.3	37.7-212		%Rec	1	12/9/2022 5:46:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.25		mg/Kg	1	12/9/2022 5:46:00 AM
Toluene	ND	0.49		mg/Kg	1	12/9/2022 5:46:00 AM
Ethylbenzene	ND	0.49		mg/Kg	1	12/9/2022 5:46:00 AM
Xylenes, Total	ND	0.98		mg/Kg	1	12/9/2022 5:46:00 AM
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	12/9/2022 5:46:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	700	60		mg/Kg	20	12/9/2022 6:15:24 PM

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

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

Page 118 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-103 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:35:00 PM

Lab ID: 2212211-119

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 4:38:01 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 4:38:01 PM
Surr: DNOP	125	21-129		%Rec	1	12/8/2022 4:38:01 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 6:06:00 AM
Surr: BFB	96.6	37.7-212		%Rec	1	12/9/2022 6:06:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 6:06:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 6:06:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 6:06:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 6:06:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/9/2022 6:06:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	1300	59		mg/Kg	20	12/9/2022 6:27:45 PM

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

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

Page 119 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-104 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 1:35:00 PM

Lab ID: 2212211-120

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 4:48:36 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 4:48:36 PM
Surr: DNOP	123	21-129		%Rec	1	12/8/2022 4:48:36 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 6:25:00 AM
Surr: BFB	92.1	37.7-212		%Rec	1	12/9/2022 6:25:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 6:25:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 6:25:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 6:25:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2022 6:25:00 AM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	12/9/2022 6:25:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	930	60		mg/Kg	20	12/9/2022 6:40:06 PM

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

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

Page 120 of 167



Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2212211  
Date Reported: 12/15/2022

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BS22-105 4'  
Project: SDE 31 Federal 009      Collection Date: 12/2/2022 2:00:00 PM  
Lab ID: 2212211-121      Matrix: SOIL      Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 4:59:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 4:59:13 PM
Surr: DNOP	126	21-129		%Rec	1	12/8/2022 4:59:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 6:45:00 AM
Surr: BFB	98.5	37.7-212		%Rec	1	12/9/2022 6:45:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	12/9/2022 6:45:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 6:45:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 6:45:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2022 6:45:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/9/2022 6:45:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	600	60		mg/Kg	20	12/9/2022 6:52:27 PM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-106 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:00:00 PM

Lab ID: 2212211-122

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 5:09:51 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 5:09:51 PM
Surr: DNOP	143	21-129	S	%Rec	1	12/8/2022 5:09:51 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 7:04:00 AM
Surr: BFB	95.3	37.7-212		%Rec	1	12/9/2022 7:04:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 7:04:00 AM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 7:04:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 7:04:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/9/2022 7:04:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/9/2022 7:04:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	4200	150		mg/Kg	50	12/10/2022 5:38:20 PM

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

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

Page 122 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-107 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:05:00 PM

Lab ID: 2212211-123

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 5:20:31 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 5:20:31 PM
Surr: DNOP	114	21-129		%Rec	1	12/8/2022 5:20:31 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 7:24:00 AM
Surr: BFB	95.9	37.7-212		%Rec	1	12/9/2022 7:24:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 7:24:00 AM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 7:24:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 7:24:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 7:24:00 AM
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	12/9/2022 7:24:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	930	60		mg/Kg	20	12/9/2022 7:17:09 PM

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

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

Page 123 of 167



Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2212211  
Date Reported: 12/15/2022

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BS22-108 4'  
Project: SDE 31 Federal 009      Collection Date: 12/2/2022 2:05:00 PM  
Lab ID: 2212211-124      Matrix: SOIL      Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 5:31:08 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 5:31:08 PM
Surr: DNOP	125	21-129		%Rec	1	12/8/2022 5:31:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 7:44:00 AM
Surr: BFB	102	37.7-212		%Rec	1	12/9/2022 7:44:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/9/2022 7:44:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 7:44:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 7:44:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 7:44:00 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/9/2022 7:44:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	120	60		mg/Kg	20	12/9/2022 7:54:12 PM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-109 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:10:00 PM

Lab ID: 2212211-125

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 5:41:48 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 5:41:48 PM
Surr: DNOP	129	21-129	S	%Rec	1	12/8/2022 5:41:48 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 8:23:00 AM
Surr: BFB	95.8	37.7-212		%Rec	1	12/9/2022 8:23:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 8:23:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 8:23:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 8:23:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 8:23:00 AM
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	12/9/2022 8:23:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 8:43:34 PM

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

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

Page 125 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-110 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:10:00 PM

Lab ID: 2212211-126

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 5:52:25 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 5:52:25 PM
Surr: DNOP	119	21-129		%Rec	1	12/8/2022 5:52:25 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 8:42:00 AM
Surr: BFB	97.8	37.7-212		%Rec	1	12/9/2022 8:42:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 8:42:00 AM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 8:42:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 8:42:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 8:42:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/9/2022 8:42:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	160	60		mg/Kg	20	12/9/2022 8:06:32 PM

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

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

Page 126 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-111 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:15:00 PM

Lab ID: 2212211-127

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 6:03:00 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 6:03:00 PM
Surr: DNOP	115	21-129		%Rec	1	12/8/2022 6:03:00 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 9:02:00 AM
Surr: BFB	96.5	37.7-212		%Rec	1	12/9/2022 9:02:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 9:02:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 9:02:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 9:02:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 9:02:00 AM
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	12/9/2022 9:02:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 9:20:36 PM

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

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

Page 127 of 167



Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2212211  
Date Reported: 12/15/2022

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BS22-112 4'  
Project: SDE 31 Federal 009      Collection Date: 12/2/2022 2:15:00 PM  
Lab ID: 2212211-128      Matrix: SOIL      Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 6:13:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 6:13:34 PM
Surr: DNOP	134	21-129	S	%Rec	1	12/8/2022 6:13:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 9:21:00 AM
Surr: BFB	96.1	37.7-212		%Rec	1	12/9/2022 9:21:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	12/9/2022 9:21:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 9:21:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 9:21:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 9:21:00 AM
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	12/9/2022 9:21:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/9/2022 9:32:57 PM

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

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



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-113 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:20:00 PM

Lab ID: 2212211-129

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 6:24:09 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 6:24:09 PM
Surr: DNOP	144	21-129	S	%Rec	1	12/8/2022 6:24:09 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 9:41:00 AM
Surr: BFB	102	37.7-212		%Rec	1	12/9/2022 9:41:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 9:41:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 9:41:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 9:41:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2022 9:41:00 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/9/2022 9:41:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/9/2022 9:45:17 PM

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

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

Page 129 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-114 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:20:00 PM

Lab ID: 2212211-130

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	19	15		mg/Kg	1	12/8/2022 6:34:50 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 6:34:50 PM
Surr: DNOP	119	21-129		%Rec	1	12/8/2022 6:34:50 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 10:01:00 AM
Surr: BFB	97.3	37.7-212		%Rec	1	12/9/2022 10:01:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 10:01:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 10:01:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 10:01:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2022 10:01:00 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/9/2022 10:01:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	61		mg/Kg	20	12/9/2022 10:22:19 PM

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

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

Page 130 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-115 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:25:00 PM

Lab ID: 2212211-131

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	30	15		mg/Kg	1	12/8/2022 6:45:31 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 6:45:31 PM
Surr: DNOP	124	21-129		%Rec	1	12/8/2022 6:45:31 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 10:20:00 AM
Surr: BFB	103	37.7-212		%Rec	1	12/9/2022 10:20:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 10:20:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 10:20:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 10:20:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 10:20:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/9/2022 10:20:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	150	60		mg/Kg	20	12/9/2022 10:34:40 PM

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

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

Page 131 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-116 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:25:00 PM

Lab ID: 2212211-132

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 6:56:10 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 6:56:10 PM
Surr: DNOP	115	21-129		%Rec	1	12/8/2022 6:56:10 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 10:40:00 AM
Surr: BFB	98.6	37.7-212		%Rec	1	12/9/2022 10:40:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 10:40:00 AM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 10:40:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 10:40:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2022 10:40:00 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/9/2022 10:40:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/10/2022 12:50:28 AM

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

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

Page 132 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-117 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:30:00 PM

Lab ID: 2212211-133

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 7:06:48 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 7:06:48 PM
Surr: DNOP	133	21-129	S	%Rec	1	12/8/2022 7:06:48 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/9/2022 11:00:00 AM
Surr: BFB	98.3	37.7-212		%Rec	1	12/9/2022 11:00:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 11:00:00 AM
Toluene	ND	0.048		mg/Kg	1	12/9/2022 11:00:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/9/2022 11:00:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2022 11:00:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/9/2022 11:00:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	77	60		mg/Kg	20	12/10/2022 1:02:48 AM

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

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

Page 133 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-118 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:30:00 PM

Lab ID: 2212211-134

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 7:17:24 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 7:17:24 PM
Surr: DNOP	120	21-129		%Rec	1	12/8/2022 7:17:24 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>CCM</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 11:19:00 AM
Surr: BFB	102	37.7-212		%Rec	1	12/9/2022 11:19:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>CCM</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 11:19:00 AM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 11:19:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 11:19:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 11:19:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/9/2022 11:19:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/10/2022 1:15:09 AM

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

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

Page 134 of 167



CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-119 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:35:00 PM

Lab ID: 2212211-135

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 5:32:01 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2022 5:32:01 PM
Surr: DNOP	108	21-129		%Rec	1	12/8/2022 5:32:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 3:55:58 AM
Surr: BFB	90.0	37.7-212		%Rec	1	12/9/2022 3:55:58 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/9/2022 3:55:58 AM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 3:55:58 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 3:55:58 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 3:55:58 AM
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	12/9/2022 3:55:58 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 1:27:29 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 135 of 167
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Limit	
	S	% Recovery outside of standard limits. If undiluted results may be estimated.			



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-120 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:35:00 PM

Lab ID: 2212211-136

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 6:12:04 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 6:12:04 PM
Surr: DNOP	99.7	21-129		%Rec	1	12/8/2022 6:12:04 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 4:49:50 PM
Surr: BFB	91.9	37.7-212		%Rec	1	12/9/2022 4:49:50 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 4:49:50 PM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 4:49:50 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 4:49:50 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 4:49:50 PM
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	12/9/2022 4:49:50 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/10/2022 1:39:51 AM

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

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

Page 136 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-121 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:40:00 PM

Lab ID: 2212211-137

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 6:25:09 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 6:25:09 PM
Surr: DNOP	108	21-129		%Rec	1	12/8/2022 6:25:09 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 5:13:23 PM
Surr: BFB	94.6	37.7-212		%Rec	1	12/9/2022 5:13:23 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 5:13:23 PM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 5:13:23 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 5:13:23 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 5:13:23 PM
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	12/9/2022 5:13:23 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	ND	60		mg/Kg	20	12/10/2022 1:52:11 AM

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

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

Page 137 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-122 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:40:00 PM

Lab ID: 2212211-138

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 6:38:17 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/8/2022 6:38:17 PM
Surr: DNOP	99.7	21-129		%Rec	1	12/8/2022 6:38:17 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 5:37:00 PM
Surr: BFB	94.2	37.7-212		%Rec	1	12/9/2022 5:37:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 5:37:00 PM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 5:37:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 5:37:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 5:37:00 PM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	12/9/2022 5:37:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	340	61		mg/Kg	20	12/10/2022 2:04:31 AM

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

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

Page 138 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-123 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:45:00 PM

Lab ID: 2212211-139

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/8/2022 6:51:16 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/8/2022 6:51:16 PM
Surr: DNOP	100	21-129		%Rec	1	12/8/2022 6:51:16 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 6:00:35 PM
Surr: BFB	95.7	37.7-212		%Rec	1	12/9/2022 6:00:35 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 6:00:35 PM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 6:00:35 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 6:00:35 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 6:00:35 PM
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	12/9/2022 6:00:35 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	110	60		mg/Kg	20	12/10/2022 2:16:52 AM

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

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

Page 139 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-124 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:45:00 PM

Lab ID: 2212211-140

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 7:04:11 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/8/2022 7:04:11 PM
Surr: DNOP	117	21-129		%Rec	1	12/8/2022 7:04:11 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 6:24:06 PM
Surr: BFB	92.4	37.7-212		%Rec	1	12/9/2022 6:24:06 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 6:24:06 PM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 6:24:06 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 6:24:06 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/9/2022 6:24:06 PM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	12/9/2022 6:24:06 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	94	60		mg/Kg	20	12/10/2022 2:29:12 AM

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

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

Page 140 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-125 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:50:00 PM

Lab ID: 2212211-141

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 7:17:11 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/8/2022 7:17:11 PM
Surr: DNOP	104	21-129		%Rec	1	12/8/2022 7:17:11 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2022 8:21:33 PM
Surr: BFB	96.1	37.7-212		%Rec	1	12/9/2022 8:21:33 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2022 8:21:33 PM
Toluene	ND	0.050		mg/Kg	1	12/9/2022 8:21:33 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2022 8:21:33 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/9/2022 8:21:33 PM
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	12/9/2022 8:21:33 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	140	60		mg/Kg	20	12/10/2022 2:41:33 AM

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

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

Page 141 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-126 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:50:00 PM

Lab ID: 2212211-142

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	12/8/2022 7:30:04 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	12/8/2022 7:30:04 PM
Surr: DNOP	99.8	21-129		%Rec	1	12/8/2022 7:30:04 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 8:45:07 PM
Surr: BFB	92.2	37.7-212		%Rec	1	12/9/2022 8:45:07 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 8:45:07 PM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 8:45:07 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 8:45:07 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2022 8:45:07 PM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	12/9/2022 8:45:07 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	160	60		mg/Kg	20	12/10/2022 3:18:35 AM

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

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

Page 142 of 167



## Analytical Report

Lab Order 2212211

Date Reported: 12/15/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BS22-127 4'

Project: SDE 31 Federal 009

Collection Date: 12/2/2022 2:55:00 PM

Lab ID: 2212211-143

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>SB</b>
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/8/2022 7:42:56 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/8/2022 7:42:56 PM
Surr: DNOP	100	21-129		%Rec	1	12/8/2022 7:42:56 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2022 9:08:42 PM
Surr: BFB	96.2	37.7-212		%Rec	1	12/9/2022 9:08:42 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2022 9:08:42 PM
Toluene	ND	0.049		mg/Kg	1	12/9/2022 9:08:42 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2022 9:08:42 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2022 9:08:42 PM
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	1	12/9/2022 9:08:42 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>NAI</b>
Chloride	210	60		mg/Kg	20	12/10/2022 3:30:54 AM

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

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

Page 143 of 167



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>MB-71904</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71904</b>		RunNo: <b>93106</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3353799</b>		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: <b>LCS-71904</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71904</b>		RunNo: <b>93106</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3353800</b>		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	94.0	90	110			

Sample ID: <b>MB-71919</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71919</b>		RunNo: <b>93118</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3354258</b>		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: <b>LCS-71919</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71919</b>		RunNo: <b>93118</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3354259</b>		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	93.8	90	110			

Sample ID: <b>MB-71936</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71936</b>		RunNo: <b>93147</b>							
Prep Date: <b>12/8/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3355705</b>		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: <b>LCS-71936</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71936</b>		RunNo: <b>93147</b>							
Prep Date: <b>12/8/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3355706</b>		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	93.5	90	110			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 144 of 167



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>MB-71941</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71941</b>		RunNo: <b>93147</b>							
Prep Date: <b>12/8/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3355735</b>		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: <b>LCS-71941</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71941</b>		RunNo: <b>93147</b>							
Prep Date: <b>12/8/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3355736</b>		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	93.9	90	110			

Sample ID: <b>MB-71943</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71943</b>		RunNo: <b>93152</b>							
Prep Date: <b>12/8/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3356079</b>		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: <b>LCS-71943</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71943</b>		RunNo: <b>93152</b>							
Prep Date: <b>12/8/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3356080</b>		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	92.6	90	110			

Sample ID: <b>MB-71987</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71987</b>		RunNo: <b>93172</b>							
Prep Date: <b>12/9/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3357597</b>		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: <b>LCS-71987</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71987</b>		RunNo: <b>93172</b>							
Prep Date: <b>12/9/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3357598</b>		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			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 145 of 167



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>MB-71946</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71946</b>		RunNo: <b>93190</b>							
Prep Date: <b>12/8/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3357887</b>		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: <b>LCS-71946</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71946</b>		RunNo: <b>93190</b>							
Prep Date: <b>12/8/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3357889</b>		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	90.3	90	110			

Sample ID: <b>MB-72001</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>72001</b>		RunNo: <b>93190</b>							
Prep Date: <b>12/9/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3357945</b>		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: <b>LCS-72001</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>72001</b>		RunNo: <b>93190</b>							
Prep Date: <b>12/9/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3357947</b>		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	95.3	90	110			

Sample ID: <b>MB-72002</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>72002</b>		RunNo: <b>93190</b>							
Prep Date: <b>12/9/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3357982</b>		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: <b>LCS-72002</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>72002</b>		RunNo: <b>93190</b>							
Prep Date: <b>12/9/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3357983</b>		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	96.3	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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 146 of 167



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>MB-71884</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71884</b>	RunNo: <b>93058</b>								
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/7/2022</b>	SeqNo: <b>3352751</b> 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 Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		94.7	21	129			

Sample ID: <b>LCS-71884</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71884</b>	RunNo: <b>93058</b>								
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/7/2022</b>	SeqNo: <b>3352752</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	50.00	0	95.3	64.4	127			
Surr: DNOP	4.7		5.000		94.0	21	129			

Sample ID: <b>2212211-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>WS22-01 0-4'</b>	Batch ID: <b>71884</b>	RunNo: <b>93058</b>								
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/7/2022</b>	SeqNo: <b>3352763</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	14	47.39	0	97.3	36.1	154			
Surr: DNOP	4.8		4.739		102	21	129			

Sample ID: <b>2212211-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>WS22-01 0-4'</b>	Batch ID: <b>71884</b>	RunNo: <b>93058</b>								
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/7/2022</b>	SeqNo: <b>3352764</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	14	46.17	0	97.0	36.1	154	2.95	33.9	
Surr: DNOP	4.6		4.617		100	21	129	0	0	

Sample ID: <b>2212211-095AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BS22-79 4'</b>	Batch ID: <b>71908</b>	RunNo: <b>93135</b>								
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>	SeqNo: <b>3355064</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	15	49.90	0	93.6	36.1	154			
Surr: DNOP	4.8		4.990		96.7	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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 147 of 167



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-095AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: BS22-79 4'	Batch ID: 71908	RunNo: 93135
Prep Date: 12/7/2022	Analysis Date: 12/8/2022	SeqNo: 3355065 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	43	14 47.98 0 88.7 36.1 154 9.32 33.9
Surr: DNOP	4.5	4.798 93.1 21 129 0 0

Sample ID: LCS-71908	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 71908	RunNo: 93135
Prep Date: 12/7/2022	Analysis Date: 12/8/2022	SeqNo: 3355085 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	52	15 50.00 0 104 64.4 127
Surr: DNOP	5.2	5.000 103 21 129

Sample ID: MB-71908	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 71908	RunNo: 93135
Prep Date: 12/7/2022	Analysis Date: 12/8/2022	SeqNo: 3355086 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)	ND	50
Surr: DNOP	10	10.00 105 21 129

Sample ID: MB-71894	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 71894	RunNo: 93121
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355795 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)	ND	50
Surr: DNOP	11	10.00 105 21 129

Sample ID: LCS-71894	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 71894	RunNo: 93121
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355796 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	47	15 50.00 0 94.1 64.4 127
Surr: DNOP	4.8	5.000 95.6 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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-035AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: BS22-19 4'	Batch ID: 71894	RunNo: 93121
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355798 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	57	14 46.55 0 123 36.1 154
Surr: DNOP	4.9	4.655 106 21 129

Sample ID: 2212211-035AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: BS22-19 4'	Batch ID: 71894	RunNo: 93121
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355799 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	49	14 47.13 0 104 36.1 154 14.8 33.9
Surr: DNOP	4.6	4.713 97.4 21 129 0 0

Sample ID: MB-71900	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 71900	RunNo: 93121
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355821 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)	ND	50
Surr: DNOP	11	10.00 109 21 129

Sample ID: LCS-71900	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 71900	RunNo: 93121
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355822 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	64	15 50.00 0 129 64.4 127 S
Surr: DNOP	5.3	5.000 106 21 129

Sample ID: 2212211-055AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: BS22-39 4'	Batch ID: 71900	RunNo: 93121
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355824 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	47	15 49.02 0 96.5 36.1 154
Surr: DNOP	4.6	4.902 94.7 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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 149 of 167



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-055AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS22-39 4'	Batch ID: 71900	RunNo: 93121								
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355825	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	14	47.39	0	95.3	36.1	154	4.61	33.9	
Surr: DNOP	4.5		4.739		95.7	21	129	0	0	

Sample ID: MB-71885	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 71885	RunNo: 93121								
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355851	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)	ND	50								
Surr: DNOP	9.7		10.00		96.9	21	129			

Sample ID: LCS-71885	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 71885	RunNo: 93121								
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355852	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	15	50.00	0	106	64.4	127			
Surr: DNOP	5.1		5.000		103	21	129			

Sample ID: 2212211-015AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: WS22-15 0-4'	Batch ID: 71885	RunNo: 93121								
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355854	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	13	44.21	0	109	36.1	154			
Surr: DNOP	4.6		4.421		105	21	129			

Sample ID: 2212211-015AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: WS22-15 0-4'	Batch ID: 71885	RunNo: 93121								
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3355855	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	14	45.29	0	90.4	36.1	154	16.0	33.9	
Surr: DNOP	4.2		4.529		93.1	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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 150 of 167



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

WO#: 2212211

15-Dec-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>2212211-116AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BS22-100 4'</b>	Batch ID: <b>71924</b>	RunNo: <b>93157</b>								
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>	SeqNo: <b>3356241</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15	48.73	0	93.3	36.1	154			
Surr: DNOP	5.7		4.873		117	21	129			

Sample ID: <b>2212211-116AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>BS22-100 4'</b>	Batch ID: <b>71924</b>	RunNo: <b>93157</b>								
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>	SeqNo: <b>3356242</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	15	49.16	0	94.7	36.1	154	2.41	33.9	
Surr: DNOP	6.0		4.916		123	21	129	0	0	

Sample ID: <b>LCS-71924</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>71924</b>	RunNo: <b>93157</b>								
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>	SeqNo: <b>3356261</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	15	50.00	0	117	64.4	127			
Surr: DNOP	7.3		5.000		146	21	129			S

Sample ID: <b>MB-71924</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71924</b>	RunNo: <b>93157</b>								
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>	SeqNo: <b>3356262</b> 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 Range Organics (MRO)	ND	50								
Surr: DNOP	14		10.00		144	21	129			S

Sample ID: <b>MB-71902</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>71902</b>	RunNo: <b>93122</b>								
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>	SeqNo: <b>3356874</b> 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 Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		99.0	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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: <b>LCS-71902</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71902</b>		RunNo: <b>93122</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3356875</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	15	50.00	0	104	64.4	127			
Surr: DNOP	4.9		5.000		97.2	21	129			

Sample ID: <b>2212211-075AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>BS22-59 4'</b>	Batch ID: <b>71902</b>		RunNo: <b>93122</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3356877</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	15	49.07	0	117	36.1	154			
Surr: DNOP	5.1		4.907		103	21	129			

Sample ID: <b>2212211-075AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>BS22-59 4'</b>	Batch ID: <b>71902</b>		RunNo: <b>93122</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3356878</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	14	46.38	0	106	36.1	154	15.5	33.9	
Surr: DNOP	4.9		4.638		105	21	129	0	0	

Sample ID: <b>MB-71920</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71920</b>		RunNo: <b>93122</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3356908</b>		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 Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		108	21	129			

Sample ID: <b>LCS-71920</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71920</b>		RunNo: <b>93122</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3356909</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	15	50.00	0	113	64.4	127			
Surr: DNOP	5.4		5.000		107	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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 152 of 167



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-135AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: BS22-119 4'	Batch ID: 71920	RunNo: 93122
Prep Date: 12/7/2022	Analysis Date: 12/8/2022	SeqNo: 3356911 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	51	14 48.08 0 105 36.1 154
Surr: DNOP	4.9	4.808 102 21 129

Sample ID: 2212211-135AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: BS22-119 4'	Batch ID: 71920	RunNo: 93122
Prep Date: 12/7/2022	Analysis Date: 12/8/2022	SeqNo: 3356912 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	55	14 46.21 0 120 36.1 154 9.15 33.9
Surr: DNOP	5.6	4.621 120 21 129 0 0

Sample ID: MB-71951	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 71951	RunNo: 93161
Prep Date: 12/8/2022	Analysis Date: 12/9/2022	SeqNo: 3358851 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)	ND	50
Surr: DNOP	11	10.00 110 21 129

Sample ID: LCS-71951	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 71951	RunNo: 93161
Prep Date: 12/8/2022	Analysis Date: 12/9/2022	SeqNo: 3358853 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	57	15 50.00 0 113 64.4 127
Surr: DNOP	5.5	5.000 109 21 129

Sample ID: LCS-71900	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 71900	RunNo: 93242
Prep Date: 12/6/2022	Analysis Date: 12/9/2022	SeqNo: 3360557 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	54	15 50.00 0 108 64.4 127
Surr: DNOP	4.8	5.000 96.0 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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 153 of 167



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211  
15-Dec-22

Client: Vertex Resources Services, Inc.  
Project: SDE 31 Federal 009

Sample ID: mb-71865	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 71865	RunNo: 93088
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3352646 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	ND	5.0
Surr: BFB	910	1000 91.3 37.7 212

Sample ID: lcs-71865	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 71865	RunNo: 93088
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3352647 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	25	5.0 25.00 0 99.8 72.3 137
Surr: BFB	1900	1000 186 37.7 212

Sample ID: mb-71893	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 71893	RunNo: 93088
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3352670 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	ND	5.0
Surr: BFB	930	1000 92.7 37.7 212

Sample ID: lcs-71893	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 71893	RunNo: 93088
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3352671 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	26	5.0 25.00 0 103 72.3 137
Surr: BFB	1900	1000 193 37.7 212

Sample ID: 2212211-055ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-39 4'	Batch ID: 71893	RunNo: 93088
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3352673 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	25	4.9 24.58 0 102 70 130
Surr: BFB	1900	983.3 195 37.7 212

Sample ID: 2212211-055amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-39 4'	Batch ID: 71893	RunNo: 93088
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3352674 Units: mg/Kg
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 Quantitative Limit

S

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

B

Analyte detected in the associated Method Blank

E

Above Quantitation Range/Estimated Value

J

Analyte detected below quantitation limits

P

Sample pH Not In Range

RL

Reporting Limit



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-055amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-39 4'	Batch ID: 71893	RunNo: 93088
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3352674 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	29	4.9 24.73 0 119 70 130 15.7 20
Surr: BFB	2100	989.1 208 37.7 212 0 0

Sample ID: lcs-71882	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 71882	RunNo: 93125
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3354577 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	26	5.0 25.00 0 103 72.3 137
Surr: BFB	2300	1000 232 37.7 212 S

Sample ID: mb-71882	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 71882	RunNo: 93125
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3354578 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	ND	5.0
Surr: BFB	1000	1000 103 37.7 212

Sample ID: 2212211-015AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: WS22-15 0-4'	Batch ID: 71882	RunNo: 93125
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3354580 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	26	4.7 23.74 0 111 70 130
Surr: BFB	2300	949.7 239 37.7 212 S

Sample ID: 2212211-015AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: WS22-15 0-4'	Batch ID: 71882	RunNo: 93125
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3354581 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	28	4.8 24.15 0 116 70 130 6.32 20
Surr: BFB	2400	966.2 246 37.7 212 0 0 S

Sample ID: lcs-71887	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 71887	RunNo: 93125
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3354601 Units: mg/Kg
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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 155 of 167



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211  
15-Dec-22

Client: Vertex Resources Services, Inc.  
Project: SDE 31 Federal 009

Sample ID: Ics-71887		SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: LCSS		Batch ID: 71887			RunNo: 93125					
Prep Date: 12/6/2022		Analysis Date: 12/7/2022			SeqNo: 3354601		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	72.3	137			
Surr: BFB	2200		1000		223	37.7	212			S

Sample ID: mb-71887		SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: PBS		Batch ID: 71887			RunNo: 93125					
Prep Date: 12/6/2022		Analysis Date: 12/7/2022			SeqNo: 3354602		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	37.7	212			

Sample ID: 2212211-035AMS		SampType: MS			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: BS22-19 4'		Batch ID: 71887			RunNo: 93125					
Prep Date: 12/6/2022		Analysis Date: 12/7/2022			SeqNo: 3354604		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	24.98	0	104	70	130			
Surr: BFB	2300		999.0		229	37.7	212			S

Sample ID: 2212211-035AMSD		SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: BS22-19 4'		Batch ID: 71887			RunNo: 93125					
Prep Date: 12/6/2022		Analysis Date: 12/7/2022			SeqNo: 3354605		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.95	0	100	70	130	3.78	20	
Surr: BFB	2200		998.0		217	37.7	212	0	0	S

Sample ID: mb-71901		SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: PBS		Batch ID: 71901			RunNo: 93131					
Prep Date: 12/7/2022		Analysis Date: 12/8/2022			SeqNo: 3354750		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.0	37.7	212			

Sample ID: Ics-71901		SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: LCSS		Batch ID: 71901			RunNo: 93131					
Prep Date: 12/7/2022		Analysis Date: 12/8/2022			SeqNo: 3354751		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.0	37.7	212			

Qualifiers:

\*

Value exceeds Maximum Contaminant Level.

D

Sample Diluted Due to Matrix

H

Holding times for preparation or analysis exceeded

ND

Not Detected at the Reporting Limit

PQL

Practical Quantitative Limit

S

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

B

Analyte detected in the associated Method Blank

E

Above Quantitation Range/Estimated Value

J

Analyte detected below quantitation limits

P

Sample pH Not In Range

RL

Reporting Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: <b>Ics-71901</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71901</b>		RunNo: <b>93131</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3354751</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	72.3	137			
Surr: BFB	1900		1000		192	37.7	212			

Sample ID: <b>2212211-095ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BS22-79 4'</b>	Batch ID: <b>71901</b>		RunNo: <b>93131</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3354753</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.8	24.13	0	120	70	130			
Surr: BFB	2100		965.3		214	37.7	212			S

Sample ID: <b>2212211-095amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BS22-79 4'</b>	Batch ID: <b>71901</b>		RunNo: <b>93131</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3354754</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	24.11	0	111	70	130	8.01	20	
Surr: BFB	2000		964.3		205	37.7	212	0	0	

Sample ID: <b>mb-71909</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71909</b>		RunNo: <b>93131</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3354774</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	870		1000		86.9	37.7	212			

Sample ID: <b>Ics-71909</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71909</b>		RunNo: <b>93131</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3354775</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.9	72.3	137			
Surr: BFB	1800		1000		185	37.7	212			

Sample ID: <b>2212211-135ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BS22-119 4'</b>	Batch ID: <b>71909</b>		RunNo: <b>93131</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3354777</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)										
Surr: BFB										

### Qualifiers:

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-135ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-119 4'	Batch ID: 71909	RunNo: 93131
Prep Date: 12/7/2022	Analysis Date: 12/9/2022	SeqNo: 3354777 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	26	4.9 24.73 0 105 70 130
Surr: BFB	1900	989.1 194 37.7 212

Sample ID: 2212211-135amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-119 4'	Batch ID: 71909	RunNo: 93131
Prep Date: 12/7/2022	Analysis Date: 12/9/2022	SeqNo: 3354778 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	28	4.9 24.73 0 113 70 130 7.69 20
Surr: BFB	2000	989.1 201 37.7 212 0 0

Sample ID: lcs-71895	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 71895	RunNo: 93141
Prep Date: 12/6/2022	Analysis Date: 12/8/2022	SeqNo: 3355290 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	26	5.0 25.00 0 103 72.3 137
Surr: BFB	2300	1000 226 37.7 212 S

Sample ID: mb-71895	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 71895	RunNo: 93141
Prep Date: 12/6/2022	Analysis Date: 12/8/2022	SeqNo: 3355291 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	ND	5.0
Surr: BFB	1000	1000 101 37.7 212

Sample ID: 2212211-075AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-59 4'	Batch ID: 71895	RunNo: 93141
Prep Date: 12/6/2022	Analysis Date: 12/8/2022	SeqNo: 3355293 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	24	5.0 24.98 0 96.9 70 130
Surr: BFB	2200	999.0 217 37.7 212 S

Sample ID: 2212211-075AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-59 4'	Batch ID: 71895	RunNo: 93141
Prep Date: 12/6/2022	Analysis Date: 12/8/2022	SeqNo: 3355294 Units: mg/Kg
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 Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-075AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-59 4'	Batch ID: 71895	RunNo: 93141
Prep Date: 12/6/2022	Analysis Date: 12/8/2022	SeqNo: 3355294 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	26	5.0 24.90 0 103 70 130 5.40 20
Surr: BFB	2200	996.0 221 37.7 212 0 0 S

Sample ID: lcs-71906	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 71906	RunNo: 93141
Prep Date: 12/7/2022	Analysis Date: 12/9/2022	SeqNo: 3355314 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	24	5.0 25.00 0 97.6 72.3 137
Surr: BFB	2000	1000 205 37.7 212

Sample ID: mb-71906	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 71906	RunNo: 93141
Prep Date: 12/7/2022	Analysis Date: 12/9/2022	SeqNo: 3355315 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	ND	5.0
Surr: BFB	940	1000 94.2 37.7 212

Sample ID: 2212211-115ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-99 4'	Batch ID: 71906	RunNo: 93141
Prep Date: 12/7/2022	Analysis Date: 12/9/2022	SeqNo: 3355317 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	23	4.9 24.37 0 94.1 70 130
Surr: BFB	1900	974.7 197 37.7 212

Sample ID: 2212211-115amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: BS22-99 4'	Batch ID: 71906	RunNo: 93141
Prep Date: 12/7/2022	Analysis Date: 12/9/2022	SeqNo: 3355318 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	23	4.9 24.32 0 95.6 70 130 1.37 20
Surr: BFB	2100	972.8 215 37.7 212 0 0 S

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: <b>mb-71865</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71865</b>		RunNo: <b>93088</b>							
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3352693</b>		Units: <b>mg/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	0.93		1.000		93.3	70	130			

Sample ID: <b>LCS-71865</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71865</b>		RunNo: <b>93088</b>							
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3352694</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	88.7	80	120			
Toluene	0.93	0.050	1.000	0	92.5	80	120			
Ethylbenzene	0.92	0.050	1.000	0	91.7	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.3	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.1	70	130			

Sample ID: <b>mb-71893</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71893</b>		RunNo: <b>93088</b>							
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3352717</b>		Units: <b>mg/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	0.94		1.000		93.8	70	130			

Sample ID: <b>LCS-71893</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71893</b>		RunNo: <b>93088</b>							
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3352718</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.0	80	120			
Toluene	0.93	0.050	1.000	0	93.1	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.8	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 160 of 167



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-056ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: BS22-40 4'	Batch ID: 71893		RunNo: 93088							
Prep Date: 12/6/2022	Analysis Date: 12/7/2022		SeqNo: 3352721		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	0.9872	0	93.6	68.8	120			
Toluene	0.95	0.049	0.9872	0	95.8	73.6	124			
Ethylbenzene	0.94	0.049	0.9872	0	95.4	72.7	129			
Xylenes, Total	2.8	0.099	2.962	0.01876	94.9	75.7	126			
Surr: 4-Bromofluorobenzene	0.94		0.9872		95.5	70	130			

Sample ID: <b>lcs-71882</b>		SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>		Batch ID: <b>71882</b>		RunNo: <b>93125</b>						
Prep Date: <b>12/6/2022</b>		Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3354679</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.0	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	70	130			

Sample ID: <b>mb-71882</b>		SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>		Batch ID: <b>71882</b>		RunNo: <b>93125</b>						
Prep Date: <b>12/6/2022</b>		Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3354680</b>		Units: <b>mg/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	1.1		1.000		107	70	130			

Sample ID: 2212211-016AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: WS22-16 0-4'	Batch ID: 71882			RunNo: 93125						
Prep Date: 12/6/2022	Analysis Date: 12/7/2022			SeqNo: 3354685		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.024	0.9681	0	101	68.8	120			
Toluene	1.0	0.048	0.9681	0	106	73.6	124			
Ethylbenzene	1.0	0.048	0.9681	0	108	72.7	129			
Xylenes, Total	3.2	0.097	2.904	0	109	75.7	126			
Surr: 4-Bromofluorobenzene	1.0		0.9681		107	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of 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 161 of 167



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-016AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: WS22-16 0-4'	Batch ID: 71882	RunNo: 93125								
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3354686		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.024	0.9662	0	100	68.8	120	1.40	20	
Toluene	1.0	0.048	0.9662	0	104	73.6	124	2.13	20	
Ethylbenzene	1.0	0.048	0.9662	0	106	72.7	129	2.45	20	
Xylenes, Total	3.1	0.097	2.899	0	106	75.7	126	2.14	20	
Surr: 4-Bromofluorobenzene	0.99		0.9662		103	70	130	0	0	

Sample ID: <b>Ics-71887</b>		SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>		Batch ID: <b>71887</b>			RunNo: <b>93125</b>					
Prep Date: <b>12/6/2022</b>		Analysis Date: <b>12/7/2022</b>			SeqNo: <b>3354705</b>		Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	99.7	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.7	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	70	130			

Sample ID: <b>mb-71887</b>		SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>		Batch ID: <b>71887</b>		RunNo: <b>93125</b>						
Prep Date: <b>12/6/2022</b>		Analysis Date: <b>12/7/2022</b>		SeqNo: <b>3354706</b>		Units: <b>mg/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	1.1		1.000		105	70	130			

Sample ID: 2212211-036AMS	SampType: MS			TestCode: EPA Method 8021B: Volatiles						
Client ID: BS22-20 4'	Batch ID: 71887			RunNo: 93125						
Prep Date: 12/6/2022	Analysis Date: 12/7/2022			SeqNo: 3354709		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9911	0	99.9	68.8	120			
Toluene	1.0	0.050	0.9911	0	101	73.6	124			
Ethylbenzene	1.0	0.050	0.9911	0	101	72.7	129			
Xylenes, Total	3.0	0.099	2.973	0	101	75.7	126			
Surr: 4-Bromofluorobenzene	1.1		0.9911		107	70	130			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of 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 162 of 167



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-036AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: BS22-20 4'		Batch ID: 71887		RunNo: 93125						
Prep Date: 12/6/2022		Analysis Date: 12/7/2022		SeqNo: 3354710		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	0.9911	0	96.2	68.8	120	3.73	20	
Toluene	0.96	0.050	0.9911	0	97.3	73.6	124	3.64	20	
Ethylbenzene	0.96	0.050	0.9911	0	97.2	72.7	129	3.71	20	
Xylenes, Total	2.9	0.099	2.973	0	97.4	75.7	126	3.73	20	
Surr: 4-Bromofluorobenzene	1.1		0.9911		108	70	130	0	0	

Sample ID: 2212211-056amsd		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: BS22-40 4'		Batch ID: 71893		RunNo: 93131						
Prep Date: 12/6/2022		Analysis Date: 12/8/2022		SeqNo: 3354783		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	0.9891	0	85.4	68.8	120	9.01	20	
Toluene	0.86	0.049	0.9891	0	87.1	73.6	124	9.35	20	
Ethylbenzene	0.86	0.049	0.9891	0	87.0	72.7	129	9.05	20	
Xylenes, Total	2.6	0.099	2.967	0.01876	86.2	75.7	126	9.36	20	
Surr: 4-Bromofluorobenzene	0.97		0.9891		98.3	70	130	0	0	

Sample ID: <b>mb-71901</b>		SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>		Batch ID: <b>71901</b>		RunNo: <b>93131</b>						
Prep Date: <b>12/7/2022</b>		Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3354798</b>		Units: <b>mg/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	0.95		1.000		95.4	70	130			

Sample ID: LCS-71901		SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 71901		RunNo: 93131						
Prep Date: 12/7/2022		Analysis Date: 12/8/2022		SeqNo: 3354799		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.9	80	120			
Toluene	0.93	0.050	1.000	0	92.9	80	120			
Ethylbenzene	0.92	0.050	1.000	0	91.7	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.5	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		93.4	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 163 of 167



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

Client: Vertex Resources Services, Inc.

Project: SDE 31 Federal 009

Sample ID: 2212211-096ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: BS22-80 4'	Batch ID: 71901		RunNo: 93131							
Prep Date: 12/7/2022	Analysis Date: 12/8/2022		SeqNo: 3354802		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	0.9950	0	87.1	68.8	120			
Toluene	0.91	0.050	0.9950	0	91.4	73.6	124			
Ethylbenzene	0.92	0.050	0.9950	0	92.1	72.7	129			
Xylenes, Total	2.8	0.10	2.985	0.02036	91.5	75.7	126			
Surr: 4-Bromofluorobenzene	0.96		0.9950		96.6	70	130			

Sample ID: 2212211-096amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BS22-80 4'	Batch ID: 71901			RunNo: 93131						
Prep Date: 12/7/2022	Analysis Date: 12/8/2022			SeqNo: 3354803		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	0.9950	0	95.2	68.8	120	8.82	20	
Toluene	1.0	0.050	0.9950	0	100	73.6	124	9.37	20	
Ethylbenzene	1.0	0.050	0.9950	0	102	72.7	129	10.2	20	
Xylenes, Total	3.1	0.10	2.985	0.02036	102	75.7	126	10.4	20	
Surr: 4-Bromofluorobenzene	0.97		0.9950		97.5	70	130	0	0	

Sample ID: <b>mb-71909</b>		SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>		Batch ID: <b>71909</b>		RunNo: <b>93131</b>						
Prep Date: <b>12/7/2022</b>		Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3354822</b>		Units: <b>mg/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	0.89		1.000		89.4	70	130			

Sample ID: LCS-71909		SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 71909		RunNo: 93131						
Prep Date: 12/7/2022		Analysis Date: 12/9/2022		SeqNo: 3354823		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	96.7	80	120			
Toluene	0.97	0.050	1.000	0	97.2	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.3	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		93.0	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of 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 164 of 167



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

WO#: 2212211

15-Dec-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>ics-71895</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71895</b>		RunNo: <b>93141</b>							
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3355469</b>		Units: <b>mg/Kg</b>					
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	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	70	130			

Sample ID: <b>mb-71895</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71895</b>		RunNo: <b>93141</b>							
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3355470</b>		Units: <b>mg/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		104	70	130			

Sample ID: <b>2212211-076AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BS22-60 4'</b>	Batch ID: <b>71895</b>		RunNo: <b>93141</b>							
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3355473</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	0.9833	0	100	68.8	120			
Toluene	1.0	0.049	0.9833	0	101	73.6	124			
Ethylbenzene	1.0	0.049	0.9833	0	102	72.7	129			
Xylenes, Total	3.0	0.098	2.950	0	102	75.7	126			
Surr: 4-Bromofluorobenzene	1.0		0.9833		104	70	130			

Sample ID: <b>2212211-076AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BS22-60 4'</b>	Batch ID: <b>71895</b>		RunNo: <b>93141</b>							
Prep Date: <b>12/6/2022</b>	Analysis Date: <b>12/8/2022</b>		SeqNo: <b>3355474</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	0.9823	0	99.4	68.8	120	0.820	20	
Toluene	0.99	0.049	0.9823	0	101	73.6	124	0.879	20	
Ethylbenzene	0.99	0.049	0.9823	0	100	72.7	129	1.26	20	
Xylenes, Total	3.0	0.098	2.947	0	100	75.7	126	1.47	20	
Surr: 4-Bromofluorobenzene	0.97		0.9823		98.3	70	130	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 165 of 167



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

WO#: 2212211

15-Dec-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: <b>lcs-71906</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>71906</b>		RunNo: <b>93141</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3355493</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.2	80	120			
Toluene	0.98	0.050	1.000	0	98.4	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.1	80	120			
Surr: 4-Bromofluorobenzene	0.98		1.000		97.5	70	130			

Sample ID: <b>mb-71906</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>71906</b>		RunNo: <b>93141</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3355494</b>		Units: <b>mg/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	0.96		1.000		96.3	70	130			

Sample ID: <b>2212211-116ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BS22-100 4'</b>	Batch ID: <b>71906</b>		RunNo: <b>93141</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3355497</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9843	0	92.6	68.8	120			
Toluene	0.94	0.049	0.9843	0	95.9	73.6	124			
Ethylbenzene	0.94	0.049	0.9843	0	96.0	72.7	129			
Xylenes, Total	2.8	0.098	2.953	0	95.5	75.7	126			
Surr: 4-Bromofluorobenzene	0.97		0.9843		98.7	70	130			

Sample ID: <b>2212211-116amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BS22-100 4'</b>	Batch ID: <b>71906</b>		RunNo: <b>93141</b>							
Prep Date: <b>12/7/2022</b>	Analysis Date: <b>12/9/2022</b>		SeqNo: <b>3355498</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	0.9833	0	89.4	68.8	120	3.71	20	
Toluene	0.91	0.049	0.9833	0	92.3	73.6	124	3.94	20	
Ethylbenzene	0.91	0.049	0.9833	0	92.4	72.7	129	3.92	20	
Xylenes, Total	2.7	0.098	2.950	0	91.8	75.7	126	4.01	20	
Surr: 4-Bromofluorobenzene	0.97		0.9833		98.8	70	130	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 166 of 167



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2212211

15-Dec-22

**Client:** Vertex Resources Services, Inc.**Project:** SDE 31 Federal 009

Sample ID: 2212211-136ams	SampType: MS			TestCode: EPA Method 8021B: Volatiles						
Client ID: BS22-120 4'	Batch ID: 71909			RunNo: 93146						
Prep Date: 12/7/2022	Analysis Date: 12/9/2022			SeqNo: 3357312			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	0.9940	0	95.0	68.8	120			
Toluene	0.99	0.050	0.9940	0	100	73.6	124			
Ethylbenzene	1.0	0.050	0.9940	0	102	72.7	129			
Xylenes, Total	3.0	0.099	2.982	0.01925	101	75.7	126			
Surr: 4-Bromofluorobenzene	0.95		0.9940		95.7	70	130			

Sample ID: 2212211-136amsd		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: BS22-120 4'		Batch ID: 71909		RunNo: 93146						
Prep Date: 12/7/2022		Analysis Date: 12/9/2022		SeqNo: 3357313			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	0.9901	0	98.5	68.8	120	3.23	20	
Toluene	1.0	0.050	0.9901	0	104	73.6	124	3.33	20	
Ethylbenzene	1.0	0.050	0.9901	0	105	72.7	129	2.89	20	
Xylenes, Total	3.1	0.099	2.970	0.01925	105	75.7	126	3.51	20	
Surr: 4-Bromofluorobenzene	0.96		0.9901		97.2	70	130	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

Page 167 of 167





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

## Sample Log-In Check List

Client Name: Vertex Resources  
Services, Inc.

Work Order Number: 2212211

RcptNo: 1

Received By: Sean Livingston 12/6/2022 7:30:00 AM

Completed By: Sean Livingston 12/6/2022 8:03:32 AM

Reviewed By: *JA 12-6-22*

*San Lopez*  
*San Lopez*

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. Received at least 1 vial with headspace  $<1/4$ " for AQ VOA? Yes ☐ No ☐ NA ☒

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

# of preserved  
bottles checked  
for pH:

( $<2$  or  $>12$  unless noted)

Adjusted? \_\_\_\_\_

Checked by: *yn 12/6/22*

### Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good				
2	0.9	Good				
3	1.7	Good				
4	0.3	Good				





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

## Sample Log-In Check List

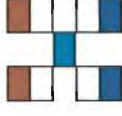
Client Name: Vertex Resources  
Services, Inc.

Work Order Number: 2212211

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
5	0.1	Good				





**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

<b>received On 01/01/2022 Custody Record</b>		Turn-Around Time:	
Client: <b>Vertex</b>		<input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush <i>5 Days</i>	
Mailing Address: (direct bill to Devon)		Project Name:	
Phone #: _____		SDE 31 Federal #009	
email or Fax#: _____		Project #:	
QA/QC Package: <input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		22E-02816-36	
Accreditation: <input type="checkbox"/> Az Compliance		Project Manager:	
<input type="checkbox"/> NELAC <input type="checkbox"/> Other _____		Kent Stallings	
<input type="checkbox"/> EDD (Type) _____		Sampler: <i>L Pullman</i> On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
		# of Coolers: <i>5</i>	
		Cooler Temp (including CF): <i>see checklist</i>	
Date	Time	Matrix	Sample Name
12/02/22	7:05	Soil	WS22-01 0-4'
12/02/22	7:05	Soil	WS22-02 0-4'
12/02/22	7:10	Soil	WS22-03 0-4'
12/02/22	7:10	Soil	WS22-04 0-4'
12/02/22	7:15	Soil	WS22-05 0-4'
12/02/22	7:15	Soil	WS22-06 0-4'
12/02/22	7:20	Soil	WS22-07 0-4'
12/02/22	7:20	Soil	WS22-08 0-4'
12/02/22	7:25	Soil	WS22-09 0-4'
12/02/22	7:25	Soil	WS22-10 0-4'
12/02/22	7:30	Soil	WS22-11 0-4'
12/02/22	7:30	Soil	WS22-12 0-4'
Date:	Time:	Relinquished by:	
<i>12/02/22</i>	<i>1:00</i>	<i>see</i>	
		Received by:	Date    Time
		<i>see</i>	<i>12/5/22 7:00</i>
		Received by:	Date    Time
		<i>see</i>	<i>12/5/22 7:30</i>

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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11





# HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

received <b>CH 0101-3072024-51636</b> <b>Record</b>		Turn-Around Time:				
Client: <b>Vertex</b> (direct bill to Devon)		<input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush <b>5 Day</b>				
Mailing Address:		Project Name:				
Phone #:		<b>SDE 31 Federal #009</b>				
email or Fax#:		Project #:				
QA/QC Package:		<b>22E-02816-36</b>				
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		Project Manager:				
Accreditation: <input type="checkbox"/> Az Compliance		Kent Stallings				
<input type="checkbox"/> NELAC <input type="checkbox"/> Other		<a href="mailto:kstallings@vertex.ca">kstallings@vertex.ca</a>				
<input type="checkbox"/> EDD (Type)		Sampler: <b>Lab Pulman</b>				
<input type="checkbox"/> On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No		# of Coolers:				
		Cooler Temp (including CF):				
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
12/02/22	7:35	Soil	WS22-13 0-4'	1, 4oz jar		613
12/02/22	7:35	Soil	WS22-14 0-4'	1, 4oz jar		614
12/02/22	7:40	Soil	WS22-15 0-4'	1, 4oz jar		615
12/02/22	7:40	Soil	WS22-16 0-4'	1, 4oz jar		616
12/02/22	7:50	Soil	BS22-01 4'	1, 4oz jar		617
12/02/22	7:50	Soil	BS22-02 4'	1, 4oz jar		618
12/02/22	7:55	Soil	BS22-03 4'	1, 4oz jar		619
12/02/22	7:55	Soil	BS22-04 4'	1, 4oz jar		620
12/02/22	8:00	Soil	BS22-05 4'	1, 4oz jar		621
12/02/22	8:00	Soil	BS22-06 4'	1, 4oz jar		622
12/02/22	8:05	Soil	BS22-07 4'	1, 4oz jar		623
12/02/22	8:05	Soil	BS22-08 4'	1, 4oz jar		624
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/02/22	07:00	Lab Pulman	Channing		12/5/22	7:00
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/5/22	19:00	Lab Pulman	Sen	cur	12/6/22	7:30

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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4901 Hawkins NE - Albuquerque, NM 87109

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

Turn-Around Time:		Standard <u>5 Days</u>	
Project Name:		SDE 31 Federal #009	
Project #:		22E-02816-36	
Project Manager:		Kent Stallings	
Sampler:		kstallings@vertex.ca	
On Ice:		<input type="checkbox"/> Yes <input type="checkbox"/> No	
# of Coolers:			
Cooler Temp (including CF):			
Container Type and #	Preservative Type	HEAL No.	
1, 4oz jar		025	
1, 4oz jar		026	
1, 4oz jar		027	
1, 4oz jar		028	
1, 4oz jar		029	
1, 4oz jar		030	
1, 4oz jar		031	
1, 4oz jar		032	
1, 4oz jar		033	
1, 4oz jar		034	
1, 4oz jar		035	
1, 4oz jar		036	
Received by:		Via:	
Date:		Time:	
11/5/22		7:00	
Received by:		Via:	
Date:		Time:	
12/6/22		7:30	

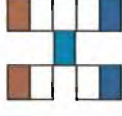
if necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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Page 404 of 420



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

Turn-Around Time:		<input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush <u>5 Day</u>	
Project Name:		SDE 31 Federal #009	
Project #:		22E-02816-36	
Project Manager:		Kent Stallings	
Sampler:		<u>L. Pullman</u>	
On Ice:		<input type="checkbox"/> Yes <input type="checkbox"/> No	
# of Coolers:			
Cooler Temp (including CF):			
Container Type and #	Preservative Type	HEAL No.	
1, 4oz jar		032	
1, 4oz jar		038	
1, 4oz jar		039	
1, 4oz jar		040	
1, 4oz jar		041	
1, 4oz jar		042	
1, 4oz jar		043	
1, 4oz jar		044	
1, 4oz jar		045	
1, 4oz jar		046	
1, 4oz jar		047	
1, 4oz jar		048	
Received by:		Via:	Date Time
<u>acummings</u>			<u>12/5/22 7:00</u>
Received by:		Via:	Date Time
<u>see</u>			<u>12/6/22 7:30</u>

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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4/12



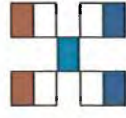
received On Call 3872024 51636 p/r Record		Turn-Around Time:				
Client: Vertex		Standard Rush 5 Day				
Mailing Address: (direct bill to Devon)		Project Name:				
Phone #:		SDE 31 Federal #009				
email or Fax#:		Project #:				
QA/QC Package:		22E-02816-36				
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		Project Manager:				
Accreditation: <input type="checkbox"/> Az Compliance		Kent Stallings				
<input type="checkbox"/> NELAC <input type="checkbox"/> Other		kstallings@vertex.ca				
<input type="checkbox"/> EDD (Type)		Sampler: L. Allman				
		On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No				
		# of Coolers:				
		Cooler Temp (including CF):				
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
12/02/22	9:20	Soil	BS22-33 4'	1, 4oz jar		049
12/02/22	9:20	Soil	BS22-34 4'	1, 4oz jar		050
12/02/22	9:25	Soil	BS22-35 4'	1, 4oz jar		051
12/02/22	9:25	Soil	BS22-36 4'	1, 4oz jar		052
12/02/22	9:30	Soil	BS22-37 4'	1, 4oz jar		053
12/02/22	9:30	Soil	BS22-38 4'	1, 4oz jar		054
12/02/22	9:35	Soil	BS22-39 4'	1, 4oz jar		055
12/02/22	9:35	Soil	BS22-40 4'	1, 4oz jar		056
12/02/22	9:40	Soil	BS22-41 4'	1, 4oz jar		057
12/02/22	9:40	Soil	BS22-42 4'	1, 4oz jar		058
12/02/22	9:45	Soil	BS22-43 4'	1, 4oz jar		059
12/02/22	9:45	Soil	BS22-44 4'	1, 4oz jar		060
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12-5-24 0700		John Allman	aw		12/5/22	700
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/5/22 1900		aw	su	can	12/6/22	7:30

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

Released to Imaging: 4/4/2024 9:41:14 AM

2/5





# HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

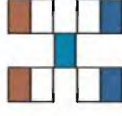
receiving Office: 3021 2024 5:16:36 PM Record			Turn-Around Time:			
Client: Vertex		<input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush 5 am				
Mailing Address:		Project Name:				
		SDE 31 Federal #009				
Phone #:		Project #:				
email or Fax#:		22E-02816-36				
QA/QC Package:		Project Manager:				
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		Kent Stallings				
Accreditation: <input type="checkbox"/> Az Compliance		<a href="mailto:kstallings@vertex.ca">kstallings@vertex.ca</a>				
<input type="checkbox"/> NELAC <input type="checkbox"/> Other		Sampler: L. Pullman				
<input type="checkbox"/> EDD (Type)		On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No				
		# of Coolers:				
		Cooler Temp (including CF):				
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
12/02/22	10:00	Soil	BS22-45 4'	1, 4oz jar		061
12/02/22	10:00	Soil	BS22-46 4'	1, 4oz jar		062
12/02/22	10:05	Soil	BS22-47 4'	1, 4oz jar		063
12/02/22	10:05	Soil	BS22-48 4'	1, 4oz jar		064
12/02/22	10:10	Soil	BS22-49 4'	1, 4oz jar		065
12/02/22	10:10	Soil	BS22-50 4'	1, 4oz jar		066
12/02/22	10:15	Soil	BS22-51 4'	1, 4oz jar		067
12/02/22	10:15	Soil	BS22-52 4'	1, 4oz jar		068
12/02/22	10:20	Soil	BS22-53 4'	1, 4oz jar		069
12/02/22	10:20	Soil	BS22-54 4'	1, 4oz jar		070
12/02/22	10:25	Soil	BS22-55 4'	1, 4oz jar		071
12/02/22	10:25	Soil	BS22-56 4'	1, 4oz jar		072
Date:	Time:	Relinquished by:	Via:	Date	Time	
12-5-22	0700	L. Pullman		12/5/22	700	
Date:	Time:	Relinquished by:	Via:	Date	Time	
12/5/22	1900			12/6/22	7:30	

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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6/12





## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

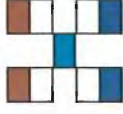
<b>received On 04/11/2023 at 10:30 AM by Record</b>		<b>Turn-Around Time:</b> Standard <u>A Rush</u> <u>5 Day</u>	
<b>Client:</b> Vertex (direct bill to Devon)		<b>Project Name:</b> SDE 31 Federal #009	
<b>Mailing Address:</b>		<b>Project #:</b>	
<b>Phone #:</b>		<b>22E-02816-36</b>	
<b>email or Fax#:</b>		<b>Project Manager:</b> Kent Stallings <a href="mailto:kstallings@vertex.ca">kstallings@vertex.ca</a>	
<b>QA/QC Package:</b> <input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		<b>Sampler:</b> <u>L. Sullivan</u>	
<b>Accreditation:</b> <input type="checkbox"/> Az Compliance <input type="checkbox"/> NELAC <input type="checkbox"/> Other		<b>On Ice:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> EDD (Type)		<b># of Coolers:</b>	
		<b>Cooler Temp (including CF):</b>	
<b>Date</b>	<b>Time</b>	<b>Matrix</b>	<b>Sample Name</b>
12/02/22	10:30	Soil	BS22-57 4'
12/02/22	10:30	Soil	BS22-58 4'
12/02/22	10:35	Soil	BS22-59 4'
12/02/22	10:35	Soil	BS22-60 4'
12/02/22	10:40	Soil	BS22-61 4'
12/02/22	10:40	Soil	BS22-62 4'
12/02/22	10:45	Soil	BS22-63 4'
12/02/22	10:45	Soil	BS22-64 4'
12/02/22	10:50	Soil	BS22-65 4'
12/02/22	10:50	Soil	BS22-66 4'
12/02/22	11:00	Soil	BS22-67 4'
12/02/22	11:00	Soil	BS22-68 4'
<b>Date:</b>	<b>Time:</b>	<b>Relinquished by:</b>	<b>Received by:</b>
12-5-22	07:00	Lakshmi Sullivan	AS
<b>Date:</b>	<b>Time:</b>	<b>Relinquished by:</b>	<b>Received by:</b>
12/5/22	19:00	AS	See count 12/5/22 7:30

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 noted on the analytical report.

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7/12



HALL ENVIRONMENTAL  
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

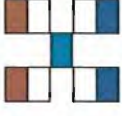
Turn-Around Time:			
<input checked="" type="checkbox"/> Standard	<input checked="" type="checkbox"/> Rush 5 Day		
Project Name:			
SDE 31 Federal #009			
Project #:			
22E-02816-36			
Project Manager:			
Kent Stallings			
kstallings@vertex.ca			
Sampler: L. Pullman			
On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No			
# of Coolers:			
Cooler Temp (including CF):			
Container Type and #	Preservative Type	HEAL No.	
1, 4oz jar		085	
1, 4oz jar		086	
1, 4oz jar		087	
1, 4oz jar		088	
1, 4oz jar		089	
1, 4oz jar		090	
1, 4oz jar		091	
1, 4oz jar		092	
1, 4oz jar		093	
1, 4oz jar		094	
1, 4oz jar		095	
1, 4oz jar		096	
Date	Time	Matrix	Sample Name
12/02/22	11:05	Soil	BS22-69 4'
12/02/22	11:05	Soil	BS22-70 4'
12/02/22	11:10	Soil	BS22-71 4'
12/02/22	11:10	Soil	BS22-72 4'
12/02/22	11:15	Soil	BS22-73 4'
12/02/22	11:15	Soil	BS22-74 4'
12/02/22	11:20	Soil	BS22-75 4'
12/02/22	11:20	Soil	BS22-76 4'
12/02/22	12:30	Soil	BS22-77 4'
12/02/22	12:30	Soil	BS22-78 4'
12/02/22	12:35	Soil	BS22-79 4'
12/02/22	12:35	Soil	BS22-80 4'
Date:	Time:	Relinquished by:	
12-5-22	07:00	L. Pullman	
Date:	Time:	Relinquished by:	
12/5/22	1900		
Received by:		Via:	Date
[Signature]		car	12/6/22 7:00
Received by:		Via:	Date
[Signature]			12/6/22 7:00

## Remarks:

Direct bill to Devon, Dale Woodall  
cc. kstallings@vertex.ca for Final Report

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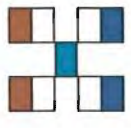
Receive Order # 3222024516691111		Record				
Client: Vertex		Turn-Around Time: <input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush 5 days				
Mailing Address: (direct bill to Devon)		Project Name: SDE 31 Federal #009				
Phone #: 22E-02816-36		Project #:				
email or Fax#:		Project Manager: Kent Stallings				
QA/QC Package: <input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		kstallings@vertex.ca				
Accreditation: <input type="checkbox"/> Az Compliance <input type="checkbox"/> NELAC <input type="checkbox"/> Other		Sampler: L. Johnson				
<input type="checkbox"/> EDD (Type)		On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No				
		# of Coolers:				
		Cooler Temp (including CF):				
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
12/02/22	12:40	Soil	BS22-81 4'	1, 4oz jar		097
12/02/22	12:40	Soil	BS22-82 4'	1, 4oz jar		098
12/02/22	12:45	Soil	BS22-83 4'	1, 4oz jar		099
12/02/22	12:45	Soil	BS22-84 4'	1, 4oz jar		100
12/02/22	12:50	Soil	BS22-85 4'	1, 4oz jar		101
12/02/22	12:50	Soil	BS22-86 4'	1, 4oz jar		102
12/02/22	12:55	Soil	BS22-87 4'	1, 4oz jar		103
12/02/22	12:55	Soil	BS22-88 4'	1, 4oz jar		104
12/02/22	13:00	Soil	BS22-89 4'	1, 4oz jar		105
12/02/22	13:00	Soil	BS22-90 4'	1, 4oz jar		106
12/02/22	13:05	Soil	BS22-91 4'	1, 4oz jar		107
12/02/22	13:05	Soil	BS22-92 4'	1, 4oz jar		108
Date: 12-5-22	Time: 07:00	Relinquished by: L. Johnson		Received by: [Signature]		Date: 12/5/22 Time: 7:00
Date: 12/5/22	Time: 1900	Relinquished by: [Signature]		Received by: [Signature]		Date: 12/6/22 Time: 7:30

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81/6





HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

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

Turn-Around Time: ☒ Standard ☒ Rush 5 Day

Project Name: SDE 31 Federal #009

Project #: 22E-02816-36

Project Manager: Kent Stallings

Sampler: L Pullman

On Ice: ☐ Yes ☐ No

# of Coolers:

Cooler Temp (including CF):

Container Type and # Preservative Type HEAL No.

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
12/02/22	13:10	Soil	BS22-93 4'	1, 4oz jar		109
12/02/22	13:10	Soil	BS22-94 4'	1, 4oz jar		110
12/02/22	13:15	Soil	BS22-95 4'	1, 4oz jar		111
12/02/22	13:15	Soil	BS22-96 4'	1, 4oz jar		112
12/02/22	13:20	Soil	BS22-97 4'	1, 4oz jar		113
12/02/22	13:20	Soil	BS22-98 4'	1, 4oz jar		114
12/02/22	13:25	Soil	BS22-99 4'	1, 4oz jar		115
12/02/22	13:25	Soil	BS22-100 4'	1, 4oz jar		116
12/02/22	13:30	Soil	BS22-101 4'	1, 4oz jar		117
12/02/22	13:30	Soil	BS22-102 4'	1, 4oz jar		118
12/02/22	13:35	Soil	BS22-103 4'	1, 4oz jar		119
12/02/22	13:35	Soil	BS22-104 4'	1, 4oz jar		120

Date: 12-5-22 07:00 Relinquished by: L Pullman

Date: 12/5/22 19:00 Relinquished by: CC

Received by: [Signature] Date: 12/5/22 7:00

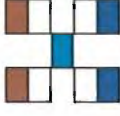
Received by: [Signature] Date: 12/6/22 7:30

Analysis Request									
BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			

Remarks: Direct bill to Devon, Dale Woodall

cc. kstallings@vertex.ca for Final Report





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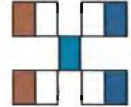
received On 12/31/2024 at 10:30 AM by Record		Turn-Around Time:				
Client: Vertex (direct bill to Devon)		<input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush 5 Days				
Mailing Address:		Project Name:				
		SDE 31 Federal #009				
Phone #:		Project #:				
22E-02816-36						
email or Fax#:		Project Manager:				
QA/QC Package:		Kent Stallings				
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		<a href="mailto:kstallings@vertex.ca">kstallings@vertex.ca</a>				
Accreditation: <input type="checkbox"/> Az Compliance		Sampler: L. Pullman				
<input type="checkbox"/> NELAC <input type="checkbox"/> Other		On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No				
<input type="checkbox"/> EDD (Type)		# of Coolers:				
		Cooler Temp (including CP):				
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
12/02/22	14:00	Soil	BS22-105 4'	1, 4oz jar		121
12/02/22	14:00	Soil	BS22-106 4'	1, 4oz jar		122
12/02/22	14:05	Soil	BS22-107 4'	1, 4oz jar		123
12/02/22	14:05	Soil	BS22-108 4'	1, 4oz jar		124
12/02/22	14:10	Soil	BS22-109 4'	1, 4oz jar		125
12/02/22	14:10	Soil	BS22-110 4'	1, 4oz jar		126
12/02/22	14:15	Soil	BS22-111 4'	1, 4oz jar		127
12/02/22	14:15	Soil	BS22-112 4'	1, 4oz jar		128
12/02/22	14:20	Soil	BS22-113 4'	1, 4oz jar		129
12/02/22	14:20	Soil	BS22-114 4'	1, 4oz jar		130
12/02/22	14:25	Soil	BS22-115 4'	1, 4oz jar		131
12/02/22	14:25	Soil	BS22-116 4'	1, 4oz jar		132
Date:	Time:	Relinquished by:		Received by:		Date
12-5-22	07:00	John Pullman		C. Pullman		12/5/22 7:00
Date:	Time:	Relinquished by:		Received by:		Date
12/5/22	19:00	C. Pullman		S. Pullman		12/5/22 7:30

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W/a





**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Turn-Around Time: ☒ Standard ☒ Rush 5 Days

Project Name: **SDE 31 Federal #009**

Project #: **22E-02816-36**

Project Manager: **Kent Stallings**

Sample: LA W Man

On Ice: ☐ Yes ☐ No

# of Coolers:           

Cooler Temp (including CF):           

Container Type and # ☐ Standard ☐ Level 4 (Full Validation)

Preservative Type ☐ Az Compliance ☐ NELAC ☐ Other ☐ EDD (Type)

HEAL No.           

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/02/22	14:30	Soil	BS22-117 4'	1, 4oz jar		133	X	X					X			
12/02/22	14:30	Soil	BS22-118 4'	1, 4oz jar		134	X	X					X			
12/02/22	14:35	Soil	BS22-119 4'	1, 4oz jar		135	X	X					X			
12/02/22	14:35	Soil	BS22-120 4'	1, 4oz jar		136	X	X					X			
12/02/22	14:40	Soil	BS22-121 4'	1, 4oz jar		137	X	X					X			
12/02/22	14:40	Soil	BS22-122 4'	1, 4oz jar		138	X	X					X			
12/02/22	14:45	Soil	BS22-123 4'	1, 4oz jar		139	X	X					X			
12/02/22	14:45	Soil	BS22-124 4'	1, 4oz jar		140	X	X					X			
12/02/22	14:50	Soil	BS22-125 4'	1, 4oz jar		141	X	X					X			
12/02/22	14:50	Soil	BS22-126 4'	1, 4oz jar		142	X	X					X			
12/02/22	14:55	Soil	BS22-127 4'	1, 4oz jar		143	X	X					X			

**Remarks:** Direct bill to Devon, Dale Woodall  
cc. kstallings@vertex.ca for Final Report

Received by: Cec Date: 12/5/22 Time: 7:00

Received by: See Comm Date: 12/6/22 Time: 7:30

Relinquished by: Dale Woodall Date: 12-5-22 Time: 07:00

Relinquished by: Cec Date: 12/5/22 Time: 19:00



**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**

QUESTIONS  
  
Action 325958

QUESTIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID:
	6137
	Action Number:
	325958
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nPAC0534054352
Incident Name	NPAC0534054352 SDE 31 FEDERAL #009 @ 30-025-32868
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-32868] SDE 31 FEDERAL #009

Location of Release Source	
Please answer all the questions in this group.	
Site Name	SDE 31 FEDERAL #009
Date Release Discovered	10/18/2005
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water 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.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Other   Other (Specify)   Produced Water   Released: 0 BBL (Unknown Released Amount)   Recovered: 0 BBL   Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
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 Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.



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

QUESTIONS, Page 2

Action 325958

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID:	6137
	Action Number:	325958
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
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**

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

The source of the release has been stopped	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.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dmn.com Date: 03/22/2024
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QUESTIONS, Page 3

Action 325958

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 325958
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**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
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Greater than 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	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Between ½ and 1 (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 Cl B)	17000
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	8335
GRO+DRO (EPA SW-846 Method 8015M)	5435
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	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	11/10/2022
On what date will (or did) the final sampling or liner inspection occur	11/29/2022
On what date will (or was) the remediation complete(d)	11/22/2022
What is the estimated surface area (in square feet) that will be reclaimed	24676
What is the estimated volume (in cubic yards) that will be reclaimed	3656
What is the estimated surface area (in square feet) that will be remediated	24676
What is the estimated volume (in cubic yards) that will be remediated	3656

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.



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QUESTIONS, Page 4

Action 325958

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 325958
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>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.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> 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.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> 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.
<i>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.</i>	
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.	
I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dmn.com Date: 03/22/2024
<i>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.</i>	



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QUESTIONS, Page 5  
  
Action 325958

QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 325958
	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



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QUESTIONS, Page 6

Action 325958

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID:	6137
	Action Number:	325958
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	325660
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	12/02/2022
What was the (estimated) number of samples that were to be gathered	143
What was the sampling surface area in square feet	25000

**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	24676
What was the total volume (cubic yards) remediated	3656
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

*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 (in .pdf format) 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.*

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.

I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dmn.com Date: 03/22/2024
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QUESTIONS, Page 7  
  
Action 325958

QUESTIONS (continued)

Operator:  DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID:	6137
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	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



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CONDITIONS  
  
Action 325958

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID:
	6137
	Action Number:
	325958
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

CONDITIONS

Created By	Condition	Condition Date
crystal.walker	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	4/4/2024
crystal.walker	Remediation Closure Report Approved	4/4/2024