Incident Number: nAPP2326256394

Release Assessment and Closure

Boyd Y Water Transfer Line

Section 14, Township 19 South, Range 25 East

County: Eddy

Vertex File Number: 23E-05378

Prepared for:
Silverback Exploration

Prepared by:
Vertex Resource Services Inc.

Date:
January 2024

Release Assessment and Closure
Boyd Y Water Transfer Line
Section 14, Township 19 South, Range 25 East
County: Eddy

Prepared for:
Silverback Exploration
108 South 4th Street
Artesia, New Mexico 88210

New Mexico Oil Conservation Division – District 2 – Artesia
811 South 1st Street
Artesia, New Mexico 88210

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January 25, 2024
Date

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January 25, 2024
Date

Table of Contents

In-text Tables

List of Figures

List of Tables

List of Appendices

1.0 Introduction

Silverback Exploration (Silverback) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water release that occurred on September 16, 2023, at the Boyd Y Water Transfer Line (hereafter referred to as the "site"). Silverback submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on September 16, 2023. Incident ID number nAPP2326256394 was assigned to this incident.

This report provides a description of the release assessment and remediation activities associated with the site. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for closure of this release, with the understanding that restoration of the release site will be completed following remediation activities as per NMAC 19.15.29.13.

2.0 Incident Description

The release occurred on September 16, 2023, due to an unintentional strike on one of the fittings of the pipeline riser. Immediate notice was given September 16, 2023, and the incident involved the release of an unknown volume of produced water into the surrounding pasture and areas of the pipeline right-of-way. Approximately 60 bbl. of standing fluids were recovered during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report.

3.0 Site Characteristics

The site is located approximately 12.6 miles southwest of Artesia, New Mexico (Google Inc., 2024). The legal location for the site is Section 14, Township 19 South and Range 25 East in Eddy County, New Mexico. The release area is located on private property. An aerial photograph and site schematic are presented on Figure 1.

The location is typical of oil and gas exploration and production sites in the Permian Basin and is currently used for oil and gas production and storage. The following sections specifically describe the release area surrounding the tank battery facility on the constructed pad.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2023) indicates the site's surface geology primarily comprises Qp – Piedmont alluvial deposits (Holocene to lower Pleistocene), and is characterized as loamy. The predominant soil texture on the site is loam and very fine sandy loam. Soils can be classified as well-drained with a moderately slow runoff class. There is medium potential for karst geology at the site (United States Department of the Interior, Bureau of Land Management, 2018).

The surrounding landscape is associated with upland landforms, mainly on hill slopes, ridges, plains, terraces, and some fan remnants with elevations ranging between 2,842 and 5,000 feet. The climate is semiarid with average annual precipitation ranging between 8 and 14 inches. Using information from the United States Department of Agriculture, the historic plant community was determined to be a black grama dominated grassland sparsely dotted with shrubs.

Fire suppression, and the loss of grass cover due to overgrazing and drought may facilitate the increase and encroachment of shrubs and cacti (United States Department of Agriculture, Natural Resources Conservation Service, 2023).

4.0 Closure Criteria Determination

The nearest active well to the site is a United States Geological Survey (USGS) monitoring well (323953104274401) located approximately 0.45 miles west of the location (United States Geological Survey, 2023). Data from 2023 show the USGS borehole recorded a depth to groundwater of 97 feet below ground surface (bgs) in 2015. Information pertaining to the depth to ground water determination is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the Pecos River located approximately 7.36 miles southeast of the site (United States Fish and Wildlife Service, 2023).

At the site, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Table 1. Closure Criteria Determination			
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater	**97**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	38,855	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	30,890	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	6,660	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	3,415	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	5,484	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
10	Within a 100-year Floodplain	500	year
11	Soil Type	Reagan loam, 0 to 1 percent slopes	
12	Ecological Classification	R070BC007NM — Loamy	
13	Geology	Qp- Piedmont alluvial 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 2.

Table 2. 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

DTGW – depth to groundwater
TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics
BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Remedial Actions Taken

An initial site inspection of the release area was completed on October 9, 2023, which identified the area of the release specified in the initial C-141 Report, estimated the approximate volume of the release and white lined the area required for the One Call request. The impacted area was determined to be approximately 276 feet long and 110 feet wide; the total affected area is 11,571 square feet. Site characterization activities were conducted by Vertex between October 17 through October 20, 2023. A total of 15 sampling boreholes were established to obtain both horizontal and vertical delineation. From these boreholes, a total of 31 samples were collected at several depths and submitted to Hall Environmental Analysis Laboratory in Alburquerque, New Mexico. The Daily Field Reports (DFRs) and site photographs associated with the site inspection are included in Appendix C. Characterization laboratory results are presented in Table 3.

Remediation efforts began on December 4, 2023, and were finalized on December 15, 2023. During this period, Vertex supervised the excavation of impacted soils. Field screening was completed on a total of 80 sample points and consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and Silver Nitrate titrations (chlorides). Field screening results were used to identify areas requiring further remediation. Soils were removed to a depth of 2 to 2.5 ft bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. The final DFR with photographs of the remediated site prior to backfill is included in Appendix C.

Notification that confirmatory samples were being collected was provided to the NMOCD on December 7 and 12, 2023, and are included in Appendix D. Confirmatory composite samples were collected from the surfaces of the excavation in 200 square foot increments. A total of 80 confirmation samples (70 base samples and 10 wall samples) were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory 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 4, and the laboratory data reports are included in Appendix E. All confirmatory samples collected and analyzed were below closure criteria for the site.

6.0 Closure Request

Vertex recommends no additional remedial actions at the site. Laboratory analyses of confirmation samples collected at the site show final confirmatory values below NMOCD closure criteria for areas where depth to groundwater is between 51 to 100 feet, as presented in Table 2. There are no anticipated risks to human, ecological, or hydrological receptors at this site. The excavation was backfilled with non-waste-containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent water ponding and erosion. The reclamation requirements of 19.15.29.13 NMAC were completed after backfilling activities.

Vertex requests that this incident (nAPP2326256394) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Silverback certifies that all information in this report and the appendices are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the site.

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

7.0 Land Reclamation

The land reclamation for the site (surface reclamation) is detailed below. This section outlines the principles that were used during the surface reclamation phase for the site. The DFR and site photographs obtained during reclamation procedures are included in Appendix C.

7.1 End Land Use and Capability

The land use surrounding the site is defined as natural; therefore, the end land use would be natural land. A natural area is described as: away from human habitation and activities, where the primary concern is the protection of ecological receptors. The site was reclaimed so that the capability of the land match that of the areas immediately surrounding the site, which consists of rangeland.

7.2 Restoration of Drainage

Currently, the site consists of a mostly-level, pipeline right-of-way and a pasture area. The site was contoured to match surrounding topography as near as practicable to restore natural drainage, which was generally in a west-to-east direction. Any compaction on-site was addressed by de-compaction to an approximate depth of 6 inches. All de-compaction activities were conducted post-backfill procedures and pre-seeding to maximize seed to soil contact and promote vegetation establishment.

7.3 Soil Replacement

Surface reclamation included determination of background topsoil depth as site conditions are required to meet pre-existing conditions.

7.3.1 Release Area

Reclamation of the location was completed after backfilling operations. A clean, locally sourced topsoil was imported to the site to backfill the excavation. The pasture areas were fenced with a 4-strand barbed wire fence.

7.3.2 Pit Reclamation

According to an NMOCD Pit Search, there are no pits associated with this location.

7.3.3 Access Road

The location is accessed directly off the pipeline two-track right-of-way and no supplementary access road is associated with this location.

7.4 Erosion Control

There are currently no erosion concerns on-site, and the use of erosion control devices at this location is not anticipated; however, erosion control devices will be installed at the discretion of the on-site environmental inspector.

7.5 Re-vegetation

7.5.1 Seeding

A seed mix suitable for the site and surrounding area was used and applied at appropriate rates. Seed establishment and re-vegetation will be monitored, bi-annually, to determine success. A State Land Office loamy seed mix was obtained for the site and administered by Vertex personnel. Seeding was completed using a tractor with rotating discs and broadcasted on all areas under reclamation.

7.5.2 Fertilization

Fertilizer will be incorporated into the contoured topsoil and/or upper subsoil to improve soil nutrient content, if deemed necessary or as per landowner recommendations.

7.5.3 Reclamation Standards

Reclamation success will meet requirements outlined in Chapter 6 of The Gold Book (United States Department of the Interior and U.S. Department of Agriculture, 2007) which states that “a self-sustaining, vigorous, diverse, native (or otherwise approved) plant community is established on site, with a density sufficient to control erosion and non-native plant invasion and to re-establish wildlife habitat or forage production”.

7.6 Weed Management

The site will be monitored for vegetative growth throughout all phases of the project. Should noxious vegetation be identified on-site, a control program will be implemented and managed as required.

Weed management programs will identify weed species of concern and utilize effective control methods. These methods include but are not limited to: chemical (herbicide) control, mechanical (mowing) control or biological control as approved by governing regulatory agencies.

8.0 Monitoring Program

Bi-annual inspections will be conducted, during the growing season, to monitor site progression and assess the need for additional best management practices (BMPs). Inspections will include photographs of the site and BMPs implemented.

8.1 Final Assessment and Closure Request

During the bi-annual inspections, if site conditions are at or nearing background conditions, a final re-vegetation report will be completed. The report will provide a summary of the vegetation establishment, a summary and interpretation of monitoring data collected, interpretation of historical monitoring data, and suggested corrective actions if applicable.

9.0 References

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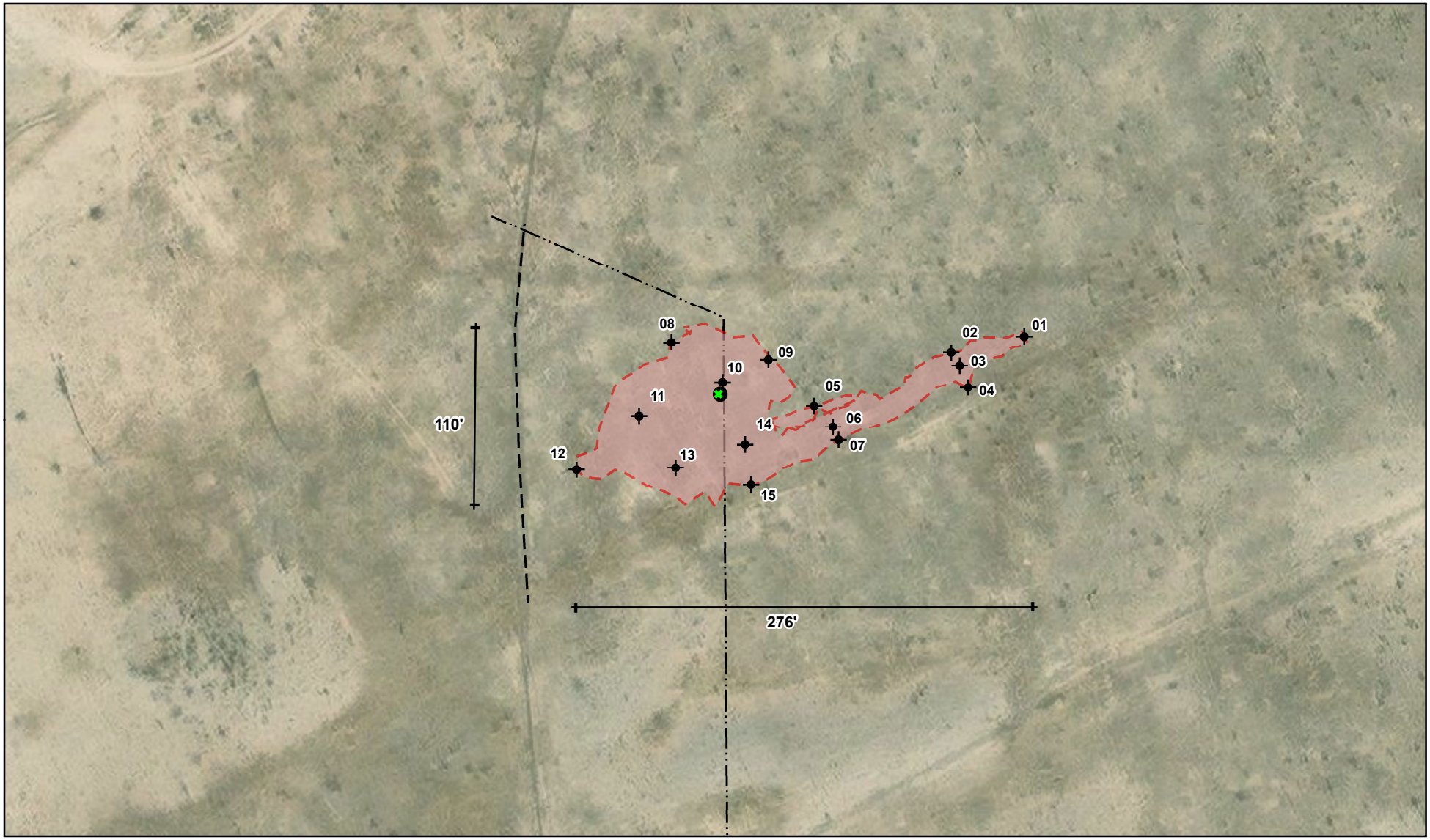
10.0 Limitations

This report has been prepared for the sole benefit of Silverback Exploration. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and the New Mexico State Land Office, without the express written consent of Vertex Resource Services Inc. (Vertex) and Silverback Exploration. 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.

FIGURES



Borehole (Prefixed by "BH23-") | Release Point | Pipeline (Aboveground) | Pipeline (Underground) | Approximate Release Area (~11,571 sq.ft.)

VERTEX

0 25 50 ft

Map Center:
Lat/Long: 32.664405, -104.455277

NAD 1983 UTM Zone 13N
Date: Nov 02/23

N

Characterization Sampling Site Schematic
Boyd Y Water Transfer Line

FIGURE:
1

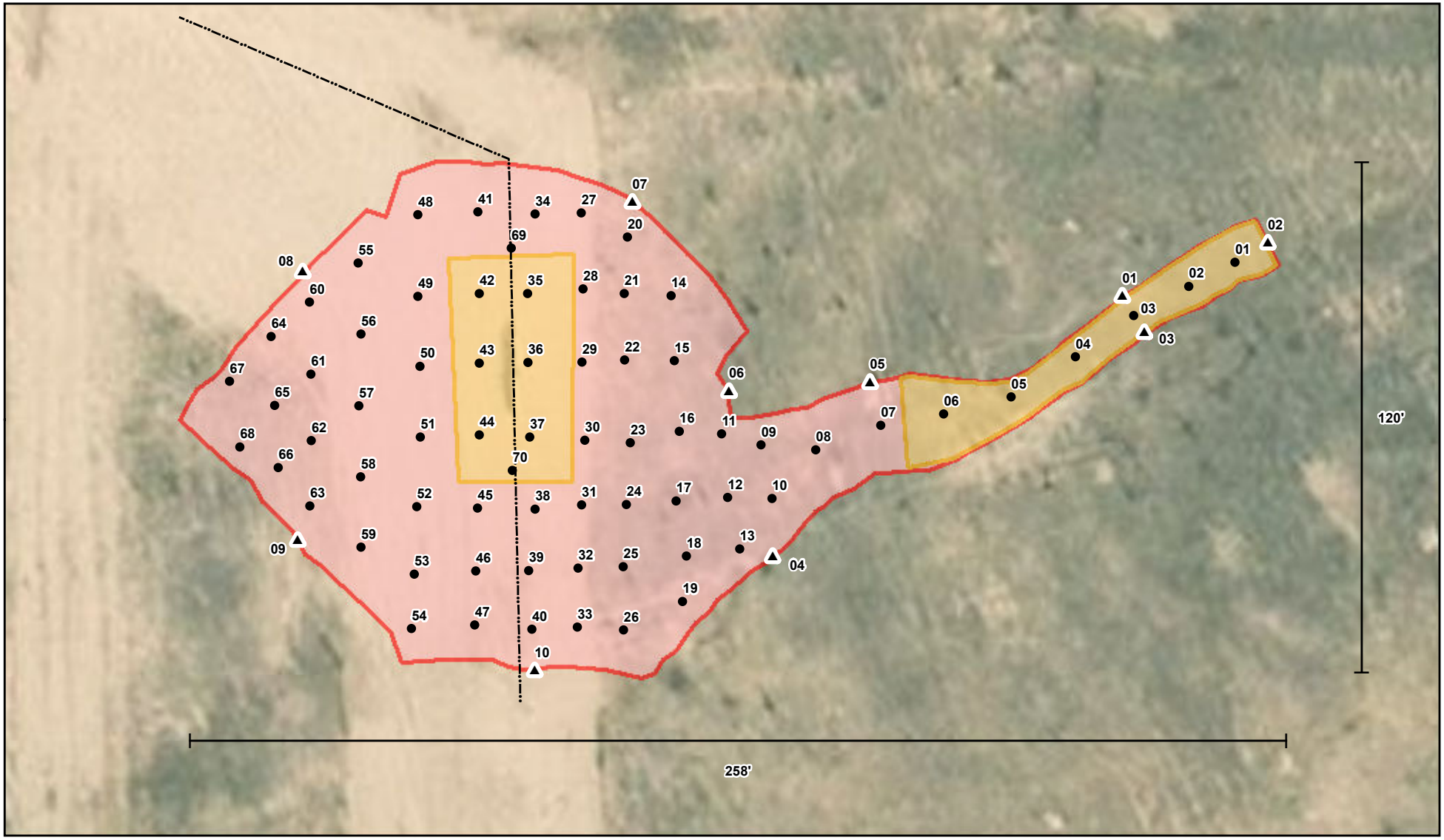
SILVERBACK EXPLORATION

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: Georeferenced image from Esri, 2022. Approximate lease boundary from imagery by Vertex Professional Services Ltd. (Vertex), 2023. Site features from GPS by Vertex, 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Silverback Exploration\23E-05378\Figure 1 Characterization Schematic (23E-05378).mxd



Base Sample (Excavated) (Prefixed by "BS23-")

Wall Sample (Excavated) (Prefixed by "WS23-")

Pipeline (Underground)

Excavation to 2 ft. bgs (~13,635 sq.ft.)

Excavation to 2.5 ft. bgs (~2,597 sq.ft. total)

VERTEX

0 15 30 ft

Map Center:
Lat/Long: 32.664392, -104.455108

NAD 1983 UTM Zone 13N
Date: Dec 13/23

N

Confirmatory Sampling Site Schematic
Boyd Y Water Transfer Line

FIGURE:
2

SILVERBACK EXPLORATION

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: Georeferenced image from Esri, 2022. Site features from GPS, Vertex, 2023.

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Document Path: C:\Users\scarter\Vertex Resource Group Ltd\Vertex US Operations - General\Environmental Services\10 - Geomatics\SPC\Silverback 23E-05378 Boyd Y Water Transfer Line\Figure 2 Confirmatory Schematic (23E-05378) Req 17553.mxd

TABLES

Client Name: Silverback Exploration
Site Name: Boyd Y Water Transfer Line
NMOCD Tracking #: nAPP2326256394
Project #: 23E-05378
Lab Reports: 2310A70 and 2310B10

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

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-01	0	October 17, 2023	ND	32	36	ND	ND	ND	ND	ND	ND	ND	ND
BH23-01	2	October 17, 2023	ND	21	30	ND	ND	ND	ND	ND	ND	ND	ND
BH23-02	0	October 17, 2023	ND	23	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH23-02	2	October 17, 2023	ND	28	1	ND	ND	ND	ND	ND	ND	ND	ND
BH23-03	0	October 17, 2023	ND	54	20,015	ND	ND	ND	ND	ND	ND	ND	**20,000**
BH23-03	2	October 17, 2023	ND	43	2,046	ND	ND	ND	ND	ND	ND	ND	**2,200**
BH23-03	3	October 19, 2023	ND	21	145	ND	ND	ND	ND	ND	ND	ND	ND
BH23-04	0	October 19, 2023	ND	47	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH23-04	2	October 19, 2023	ND	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH23-05	0	October 19, 2023	ND	32	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH23-05	2	October 19, 2023	ND	-	222	ND	ND	ND	ND	ND	ND	ND	150
BH23-06	0	October 19, 2023	ND	51	15,819	ND	ND	ND	ND	ND	ND	ND	**8,600**
BH23-06	2	October 19, 2023	ND	-	108	ND	ND	ND	ND	ND	ND	ND	93
BH23-07	0	October 19, 2023	ND	34	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH23-07	2	October 19, 2023	ND	-	59	ND	ND	ND	ND	ND	ND	ND	ND
BH23-08	0	October 20, 2023	ND	37	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH23-08	2	October 20, 2023	ND	-	12	ND	ND	ND	ND	ND	ND	ND	ND
BH23-09	0	October 20, 2023	ND	41	2	ND	ND	ND	ND	ND	ND	ND	ND
BH23-09	2	October 20, 2023	ND	-	252	ND	ND	ND	ND	ND	ND	ND	130
BH23-10	0	October 20, 2023	ND	52	4,885	ND	ND	ND	ND	ND	ND	ND	**4,900**
BH23-10	2	October 20, 2023	ND	-	108	ND	ND	ND	ND	ND	ND	ND	ND
BH23-11	0	October 20, 2023	ND	55	1,450	ND	ND	ND	ND	ND	ND	ND	**2,000**
BH23-11	2	October 20, 2023	ND	-	248	ND	ND	ND	ND	ND	ND	ND	67
BH23-12	0	October 20, 2023	ND	21	36	ND	ND	ND	ND	ND	ND	ND	ND
BH23-12	2	October 20, 2023	ND	-	40	ND	ND	ND	ND	ND	ND	ND	ND
BH23-13	0	October 20, 2023	ND	51	5,001	ND	ND	ND	ND	ND	ND	ND	**5,600**
BH23-13	2	October 20, 2023	ND	-	93	ND	ND	ND	ND	ND	ND	ND	ND
BH23-14	0	October 20, 2023	ND	57	5,371	ND	ND	ND	ND	ND	ND	ND	**7,100**
BH23-14	2	October 20, 2023	ND	-	215	ND	ND	ND	ND	ND	ND	ND	ND
BH23-15	0	October 20, 2023	ND	23	23	ND	ND	ND	ND	ND	ND	ND	ND
BH23-15	2	October 20, 2023	ND	-	47	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)

VERTEX

Client Name: Silverback Exploration
Site Name: Boyd Y Water Transfer Line
NMOCD Tracking #: nAPP2326256394
Project #: 23E-05378
Lab Reports: 2312834 and 2312A97

Table 4. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater 51-100 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS23-01	2.5	December 12, 2023	ND	27	398	ND	ND	ND	ND	ND	ND	ND	62
BS23-02	2.5	December 12, 2023	ND	-	548	ND	ND	ND	ND	ND	ND	ND	370
BS23-03	2.5	December 12, 2023	ND	30	77	ND	ND	ND	ND	ND	ND	ND	ND
BS23-04	2.5	December 12, 2023	ND	-	255	ND	ND	ND	ND	ND	ND	ND	110
BS23-05	2.5	December 12, 2023	ND	21	202	ND	ND	ND	ND	ND	ND	ND	ND
BS23-06	2.5	December 12, 2023	ND	-	303	ND	ND	ND	ND	ND	ND	ND	150
BS23-07	2	December 12, 2023	ND	24	230	ND	ND	ND	ND	ND	ND	ND	130
BS23-08	2	December 12, 2023	ND	-	264	ND	ND	ND	ND	ND	ND	ND	160
BS23-09	2	December 12, 2023	ND	19	330	ND	ND	ND	ND	ND	ND	ND	200
BS23-10	2	December 12, 2023	ND	-	427	ND	ND	ND	ND	ND	ND	ND	310
BS23-11	2	December 12, 2023	ND	29	303	ND	ND	ND	ND	ND	ND	ND	270
BS23-12	2	December 12, 2023	ND	-	398	ND	ND	ND	ND	ND	ND	ND	160
BS23-13	2	December 12, 2023	ND	22	235	ND	ND	ND	ND	ND	ND	ND	ND
BS23-14	2	December 12, 2023	ND	-	245	ND	ND	ND	ND	ND	ND	ND	75
BS23-15	2	December 12, 2023	ND	30	303	ND	ND	ND	ND	ND	ND	ND	160
BS23-16	2	December 12, 2023	ND	-	226	ND	ND	ND	ND	ND	ND	ND	76
BS23-17	2	December 12, 2023	ND	30	236	ND	ND	ND	ND	ND	ND	ND	ND
BS23-18	2	December 12, 2023	ND	-	432	ND	ND	ND	ND	ND	ND	ND	300
BS23-19	2	December 12, 2023	ND	32	327	ND	ND	ND	ND	ND	ND	ND	200
BS23-20	2	December 12, 2023	ND	-	278	ND	ND	ND	ND	ND	ND	ND	160
BS23-21	2	December 12, 2023	ND	31	245	ND	ND	ND	ND	ND	ND	ND	130
BS23-22	2	December 12, 2023	ND	-	212	ND	ND	ND	ND	ND	ND	ND	ND
BS23-23	2	December 12, 2023	ND	30	304	ND	ND	ND	ND	ND	ND	ND	100
BS23-24	2	December 12, 2023	ND	-	118	ND	ND	ND	ND	ND	ND	ND	ND
BS23-25	2	December 12, 2023	ND	29	454	ND	ND	ND	ND	ND	ND	ND	380
BS23-26	2	December 12, 2023	ND	-	266	ND	ND	ND	ND	ND	ND	ND	66
BS23-27	2	December 12, 2023	ND	25	102	ND	ND	ND	ND	ND	ND	ND	ND
BS23-28	2	December 12, 2023	ND	-	63	ND	ND	ND	ND	ND	ND	ND	ND
BS23-29	2	December 12, 2023	ND	29	83	ND	ND	ND	ND	ND	ND	ND	ND
BS23-30	2	December 12, 2023	ND	-	194	ND	ND	ND	ND	ND	ND	ND	ND
BS23-31	2	December 12, 2023	ND	27	98	ND	ND	ND	ND	ND	ND	ND	ND
BS23-32	2	December 12, 2023	ND	-	382	ND	ND	ND	ND	ND	ND	ND	130
BS23-33	2	December 12, 2023	ND	30	353	ND	ND	ND	ND	ND	ND	ND	230
BS23-34	2	December 12, 2023	ND	-	272	ND	ND	ND	ND	ND	ND	ND	190
BS23-35	2.5	December 12, 2023	ND	31	489	ND	ND	ND	ND	ND	ND	ND	260
BS23-36	2.5	December 12, 2023	ND	-	398	ND	ND	ND	ND	ND	ND	ND	260
BS23-37	2.5	December 12, 2023	ND	26	479	ND	ND	ND	ND	ND	ND	ND	370
BS23-38	2	December 12, 2023	ND	-	450	ND	ND	ND	ND	ND	ND	ND	240
BS23-39	2	December 15, 2023	ND	25	344	ND	ND	ND	ND	ND	ND	ND	ND
BS23-40	2	December 15, 2023	ND	-	369	ND	ND	ND	ND	ND	ND	ND	98
BS23-41	2	December 15, 2023	ND	30	412	ND	ND	ND	ND	ND	ND	ND	ND
BS23-42	2.5	December 15, 2023	ND	-	220	ND	ND	ND	ND	ND	ND	ND	120
BS23-43	2.5	December 15, 2023	ND	23	96	ND	ND	ND	ND	ND	ND	ND	150
BS23-44	2.5	December 15, 2023	ND	-	139	ND	ND	ND	ND	ND	ND	ND	190
BS23-45	2	December 15, 2023	ND	24	178	ND	ND	ND	ND	ND	ND	ND	350
BS23-46	2	December 15, 2023	ND	-	154	ND	ND	ND	ND	ND	ND	ND	ND
BS23-47	2	December 15, 2023	ND	22	255	ND	ND	ND	ND	ND	ND	ND	77
BS23-48	2	December 15, 2023	ND	-	294	ND	ND	ND	ND	ND	ND	ND	170
BS23-49	2	December 15, 2023	ND	25	318	ND	ND	ND	ND	ND	ND	ND	190
BS23-50	2	December 15, 2023	ND	-	352	ND	ND	ND	ND	ND	ND	ND	240
BS23-51	2	December 15, 2023	ND	27	381	ND	ND	ND	ND	ND	ND	ND	140

VERTEX

Client Name: Silverback Exploration
Site Name: Boyd Y Water Transfer Line
NMOCD Tracking #: nAPP2326256394
Project #: 23E-05378
Lab Reports: 2312834 and 2312A97

Table 4. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater 51-100 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS23-52	2	December 15, 2023	ND	-	275	ND	ND	ND	ND	ND	ND	ND	ND
BS23-53	2	December 15, 2023	ND	21	318	ND	ND	ND	ND	ND	ND	ND	ND
BS23-54	2	December 15, 2023	ND	-	269	ND	ND	ND	ND	ND	ND	ND	ND
BS23-55	2	December 15, 2023	ND	23	236	ND	ND	ND	ND	ND	ND	ND	ND
BS23-56	2	December 15, 2023	ND	-	352	ND	ND	ND	ND	ND	ND	ND	ND
BS23-57	2	December 15, 2023	ND	24	323	ND	ND	ND	ND	ND	ND	ND	ND
BS23-58	2	December 15, 2023	ND	-	290	ND	ND	ND	ND	ND	ND	ND	ND
BS23-59	2	December 15, 2023	ND	30	333	ND	ND	ND	ND	ND	ND	ND	ND
BS23-60	2	December 15, 2023	ND	-	352	ND	ND	ND	ND	ND	ND	ND	ND
BS23-61	2	December 15, 2023	ND	35	279	ND	ND	ND	ND	ND	ND	ND	ND
BS23-62	2	December 15, 2023	ND	-	232	ND	ND	ND	ND	ND	ND	ND	160
BS23-63	2	December 15, 2023	ND	26	199	ND	ND	ND	ND	ND	ND	ND	130
BS23-64	2	December 15, 2023	ND	-	318	ND	ND	ND	ND	ND	ND	ND	ND
BS23-65	2	December 15, 2023	ND	29	246	ND	ND	ND	ND	ND	ND	ND	180
BS23-66	2	December 15, 2023	ND	-	362	ND	ND	ND	ND	ND	ND	ND	ND
BS23-67	2	December 15, 2023	ND	37	228	ND	ND	ND	ND	ND	ND	ND	99
BS23-68	2	December 15, 2023	ND	-	252	ND	ND	ND	ND	ND	ND	ND	83
BS23-69	2	December 15, 2023	ND	21	88	ND	ND	ND	ND	ND	ND	ND	140
BS23-70	2.5	December 15, 2023	ND	-	155	ND	ND	ND	ND	ND	ND	ND	ND
WS23-01	2.5	December 12, 2023	ND	23	398	ND	ND	ND	ND	ND	ND	ND	260
WS23-02	2.5	December 12, 2023	ND	-	497	ND	ND	ND	ND	ND	ND	ND	500
WS23-03	2.5	December 12, 2023	ND	20	272	ND	ND	ND	ND	ND	ND	ND	200
WS23-04	2	December 12, 2023	ND	-	389	ND	ND	ND	ND	ND	ND	ND	260
WS23-05	2	December 12, 2023	ND	15	437	ND	ND	ND	ND	ND	ND	ND	150
WS23-06	2	December 12, 2023	ND	-	83	ND	ND	ND	ND	ND	ND	ND	ND
WS23-07	2	December 12, 2023	ND	22	189	ND	ND	ND	ND	ND	ND	ND	ND
WS23-08	2	December 12, 2023	ND	-	82	ND	ND	ND	ND	ND	ND	ND	ND
WS23-09	2	December 12, 2023	ND	23	43	ND	ND	ND	ND	ND	ND	ND	ND
WS23-10	2	December 12, 2023	ND	-	72	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)

APPENDIX A - NMOCD C-141 Report

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

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: Mark Ritchie Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

APPENDIX B – Closure Criteria Research Documentation

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 05450	RA	CH		4	2	15	19S	25E	550057	3614015*	1041	204	80	124
RA 09295	RA	ED	4	3	4	13	19S	25E	552979	3613115*	2198	250	85	165
RA 13210 POD1	RA	ED	3	2	4	23	19S	25E	551644	3611983	2307	101	82	19
RA 09293	RA	ED	3	4	4	13	19S	25E	553180	3613114*	2375	250	60	190
RA 09294	RA	ED	3	4	4	13	19S	25E	553180	3613114*	2375	194	76	118
RA 03983	RA	CH		4	3	01	19S	25E	552457	3616444*	2616	375	100	275
RA 05900	RA	ED		2	2	16	19S	25E	548442	3614424*	2643	185	95	90
RA 01343	RA	ED	2	1	1	18	19S	26E	553777	3614525*	2716	440	69	371
RA 04208	RA	ED		2	4	03	19S	25E	550036	3616845*	2824	110		
RA 08611	RA	ED	1	1	1	19	19S	26E	553583	3612909*	2827	235	90	145
RA 04236	RA	CH	3	3	1	02	19S	25E	550335	3617145*	3017	360	204	156
RA 04722	RA	ED		3	1	02	19S	25E	550436	3617246*	3093	200	42	158
RA 02909	RA	ED		1	3	22	19S	25E	548864	3611989*	3143	188	130	58
RA 07639	RA	ED		3	1	01	19S	25E	552049	3617250*	3181	260	172	88
RA 08612	RA	ED	1	2	1	19	19S	26E	553989	3612912*	3191	221	80	141
RA 05333	RA	ED		2	2	09	19S	25E	548430	3616046*	3216	315	260	55
RA 04128	RA	ED			2	02	19S	25E	551443	3617449*	3249	211	100	111
RA 08986	RA	ED	1	3	3	22	19S	25E	548825	3611507	3526	320	220	100
RA 09988	RA	ED	2	4	1	19	19S	26E	554190	3612507*	3552	100	65	35
RA 13122 POD2	RA	ED	3	3	2	21	19S	25E	547996	3612385	3586	108	102	6
RA 13122 POD1	RA	ED	1	3	2	21	19S	25E	547935	3612424	3619			
RA 07817	RA	ED	2	1	2	19	19S	26E	554592	3612915*	3748	224	145	79
RA 07817 CLW	RA	ED	2	1	2	19	19S	26E	554592	3612915*	3748	275	130	145
RA 09077	RA	ED	2	1	2	19	19S	26E	554592	3612915*	3748	200		
RA 13269 POD1	RA	ED	4	1	1	16	19S	25E	547276	3614401	3806	55		
RA 03304	RA	ED			1	27	19S	25E	549081	3610973*	3811	130	60	70

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

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

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

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

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 10262		RA	ED	2	2	2	19	19S	26E	554994	3612917*	4127	200	85	115
RA 03975		RA	ED	3	1	3	36	18S	25E	551942	3618353*	4222	430	270	160
RA 10496		RA	ED	3	3	4	25	19S	25E	552801	3609865*	4683	110	40	70
RA 10155		RA	ED	4	3	4	25	19S	25E	553001	3609865*	4760	225	60	165
RA 13291 POD2		RA	ED	4	3	2	34	18S	25E	549603	3618848	4857	105		
RA 13291 POD1		RA	ED	3	3	2	34	18S	25E	549587	3618857	4870	105		
RA 07026		RA	ED		3	3	30	19S	26E	553699	3609975*	4988	135	105	30

Average Depth to Water: **111 feet**

Minimum Depth: **40 feet**

Maximum Depth: **270 feet**

Record Count: 33

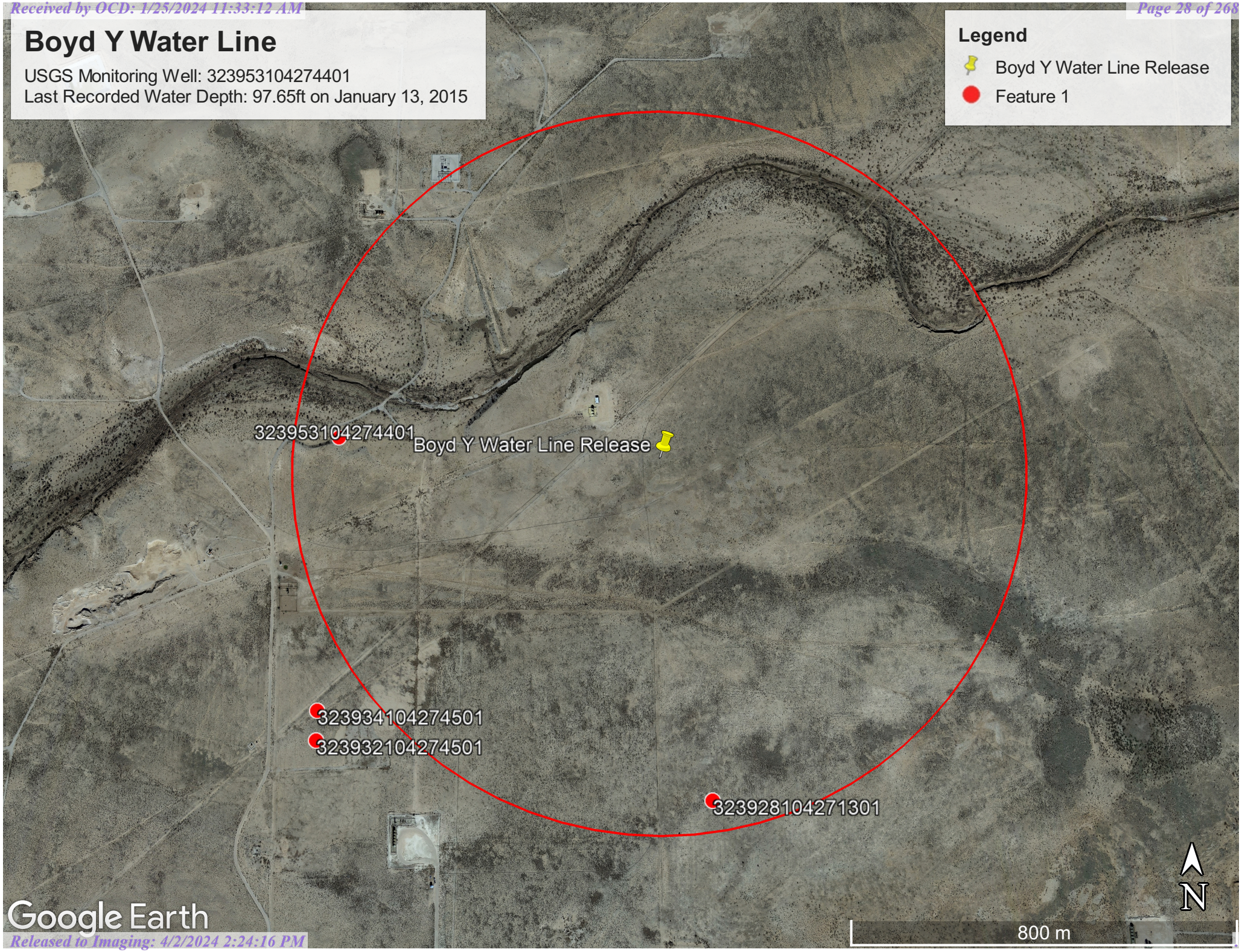
UTMNAD83 Radius Search (in meters):

Easting (X): 551078 **Northing (Y):** 3614220 **Radius:** 5000

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

Boyd Y Water Line

USGS Monitoring Well: 323953104274401
Last Recorded Water Depth: 97.65ft on January 13, 2015



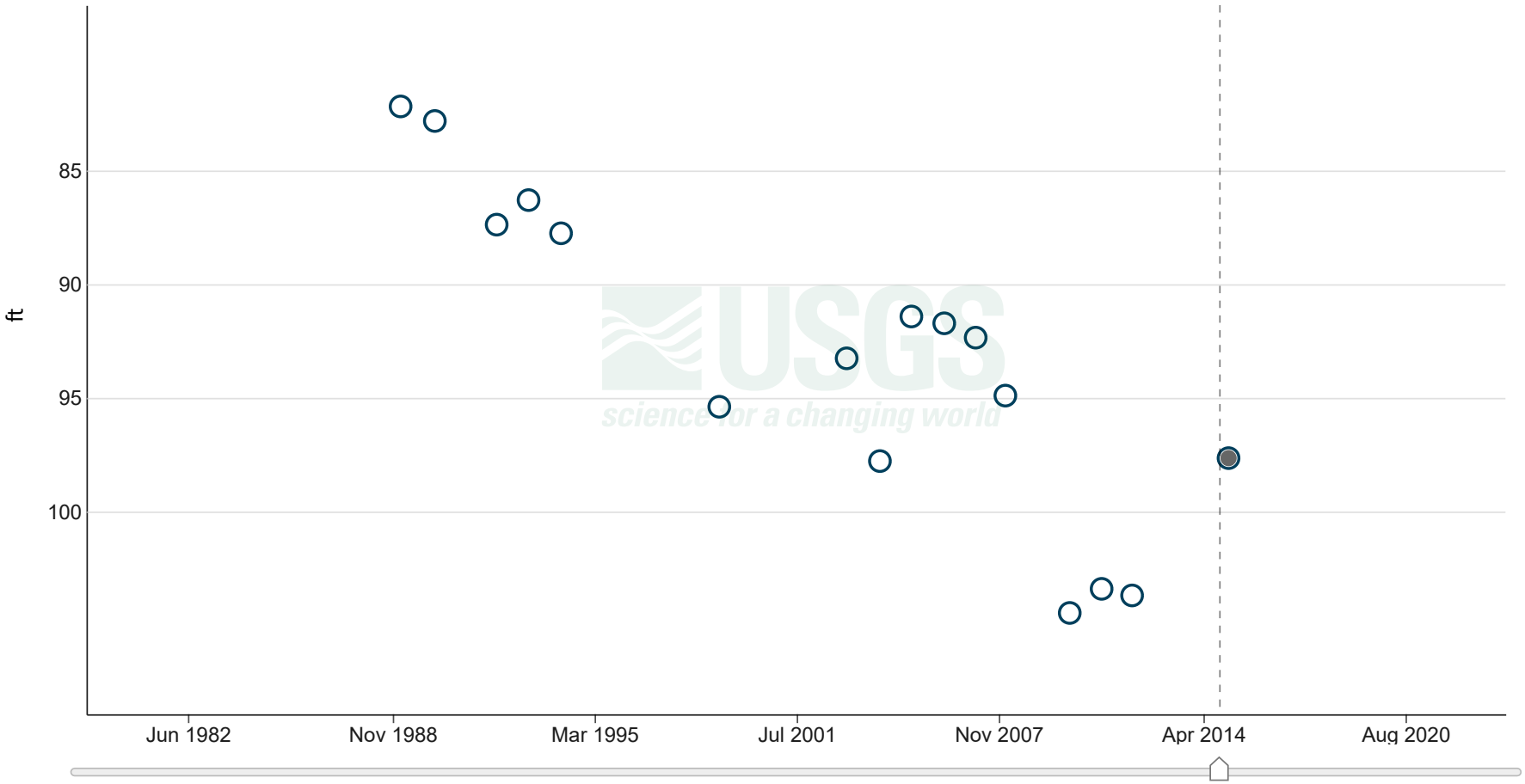
1 year 10 years Period of record

19S.25E.14.133131 - 323953104274401

March 27, 1979 - September 19, 2023

Depth to water level, ft below land surface

97.65 ft - Jan 13, 2015 01:23:00 PM MST



IMPORTANT Data may be provisional

Show legend

	Value	Status	Time
Selected	97.65 ft	Approved	Jan 13, 2015 01:23:00 PM MST

Hide graph details

Statistics are not currently supported for the data type:

Hide statistics

Change time span | Download data | View data records

Start typing a time code to filter the Time column:

Depth to water level, ft below land surface -- field visit data

Time ↓	Result	Accuracy	Approval	Qualifiers
2015-01-13T13:23:00.000-07:00	97.65	0.01	Approved	Static
2012-01-05T08:45:00.000-07:00	103.69	0.01	Approved	Static
2011-01-21T10:35:00.000-07:00	103.40	0.01	Approved	Static
2010-01-21T10:00:00.000-07:00	104.46	0.01	Approved	Static
2008-01-15T09:25:00.000-07:00	94.90	0.01	Approved	Static
2007-02-09T11:00:00.000-07:00	92.35	0.01	Approved	Static
2006-02-14T12:30:00.000-07:00	91.72	0.01	Approved	Static
2005-02-03T09:45:00.000-07:00	91.42	0.01	Approved	Static
2004-02-09T00:00:00.000-07:00	97.78	0.01	Approved	Static
2003-01-24T00:00:00.000-07:00	93.26	0.01	Approved	Static

Time ↓	Result	Accuracy	Approval	Qualifiers
1999-01-27T00:00:00.000-07:00	95.39	0.01	Approved	Static
1994-02-10T00:00:00.000-07:00	87.76	0.01	Approved	Static
1993-02-03T00:00:00.000-07:00	86.30	0.01	Approved	Static
1992-02-04T00:00:00.000-07:00	87.38	0.01	Approved	Static
1990-02-26T00:00:00.000-07:00	82.82	0.01	Approved	Static
1989-01-30T00:00:00.000-07:00	82.18	0.01	Approved	Static

Hide view data records ^

Select data to graph

◉ Depth to water level, ft below land surface	1979-03-27 to 2015-01-13	^
○ Groundwater level above NAVD 1988, ft	1979-03-27 to 2015-01-13	v
○ Groundwater level above NGVD 1929, feet	1979-03-27 to 2015-01-13	v

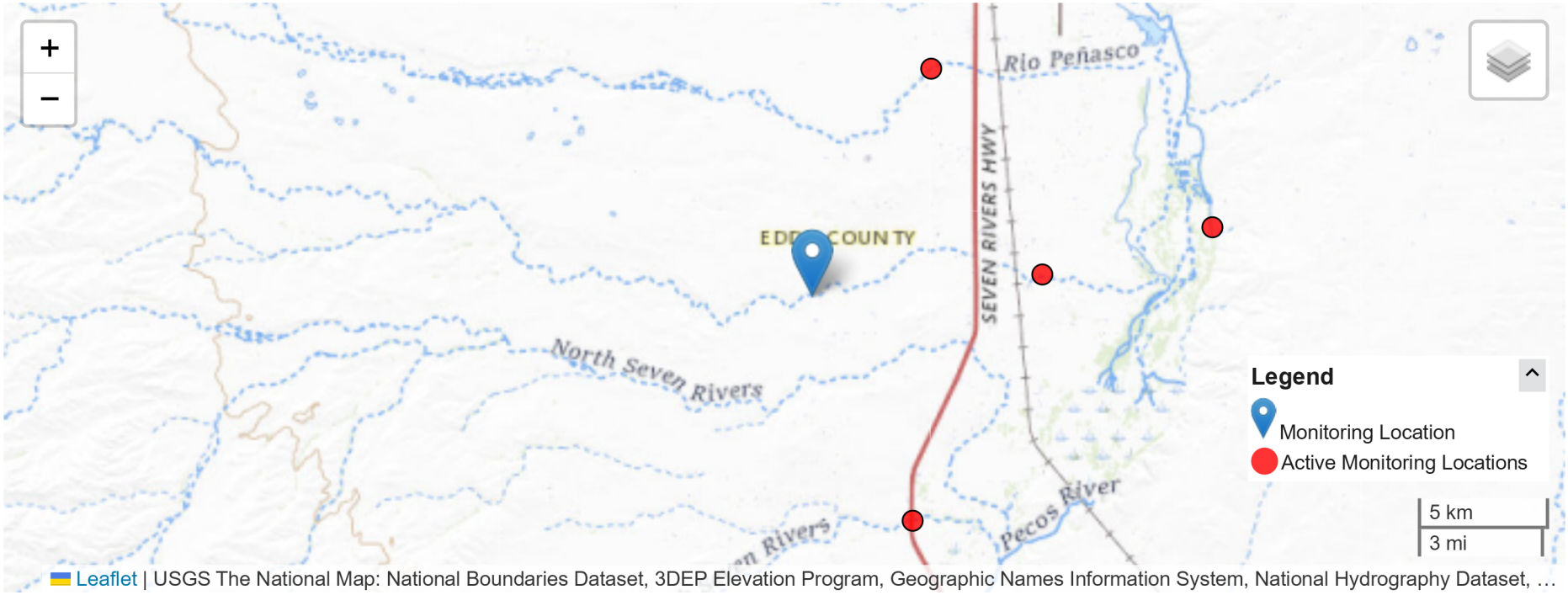
Monitoring camera

There are no cameras currently available at this monitoring location.

Groundwater data **BETA**

Why don't I see a groundwater graph?

No groundwater level statistical daily data has been reported for this location.



Interested in understanding how to access the upstream/downstream data? Learn about the Network-Linked Data Index (NLDI)

Summary of available field and laboratory sample data

No sample data is available.

Summary of all available data

USGS Parameter Group	Data Types	Start Date	End Date
Physical	Groundwater Levels	1979-03-27	2015-01-13

Water Data for the Nation inventory

Location metadata

Monitoring location 323953104274401 is associated with a Well in Eddy County, New Mexico. Water data back to 1979 are available online.

Metadata Element	Location Metadata	Metadata Code
Agency	U.S. Geological Survey	USGS
Site identification number	323953104274401	n/a
Site name	19S.25E.14.133131	n/a
Site type	Well	GW
DMS latitude	323953	n/a
DMS longitude	1042744	n/a
Decimal latitude	32.66483546	n/a

Metadata Element	Location Metadata	Metadata Code
Decimal longitude	-104.4627419	n/a
Latitude-longitude method	Interpolated from MAP.	M
Latitude-longitude accuracy	Accurate to + or - 10 sec.	T
Latitude-longitude datum	North American Datum of 1927	NAD27
Decimal Latitude-longitude datum	North American Datum of 1983	NAD83
District	New Mexico	35
State	New Mexico	35
County	Eddy County	015
Country	US	n/a
Land net location description	SWSWNWS14 T19S R25E	n/a
Name of location map		n/a
Scale of location map		n/a
Altitude of Gage/land surface	3433	n/a
Method altitude determined	Interpolated from Digital Elevation Model	N
Altitude accuracy	4.3	n/a

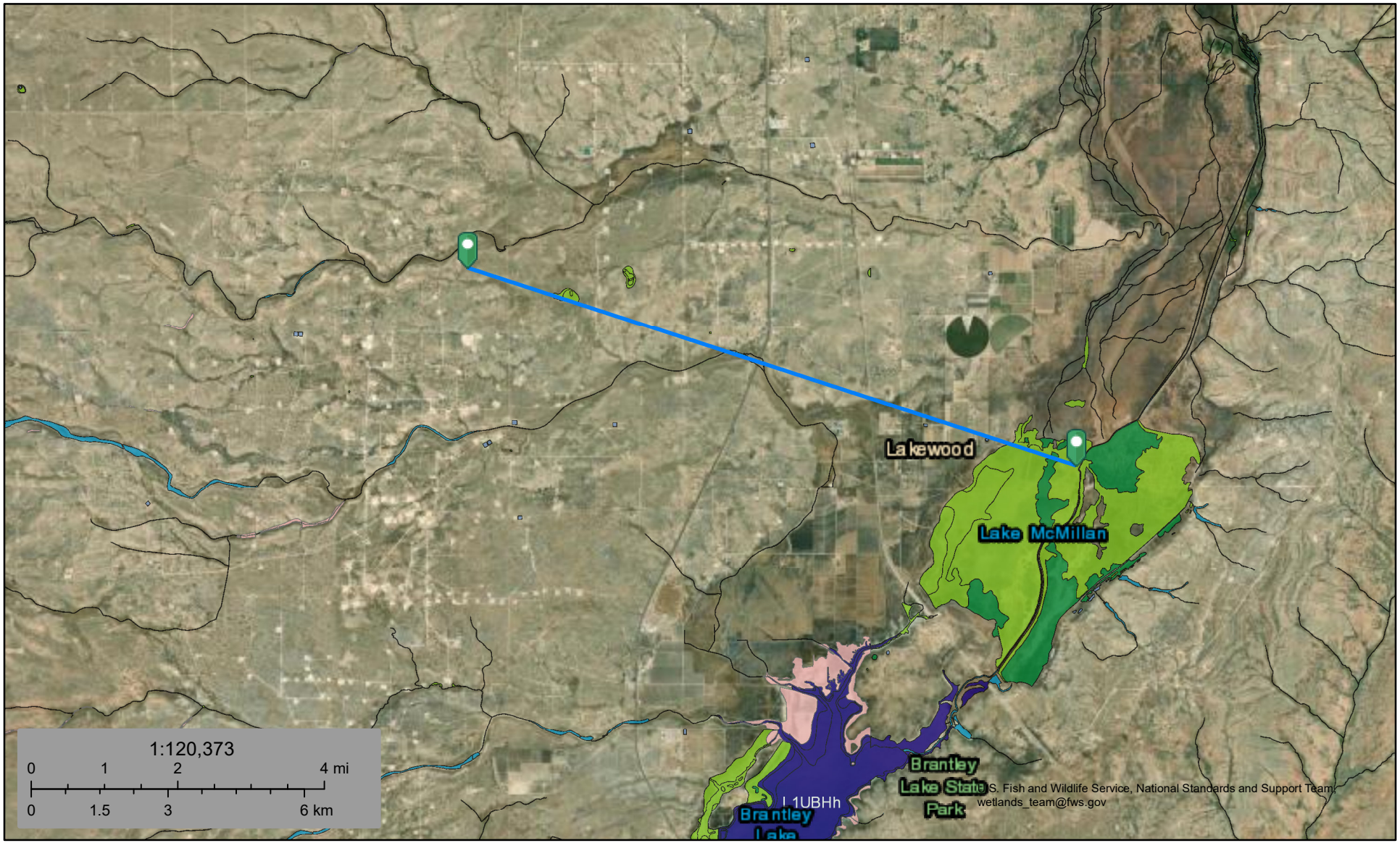
Metadata Element	Location Metadata	Metadata Code
Altitude datum	North American Vertical Datum of 1988	NAVD88
Subbasin hydrologic unit		13060011
Drainage basin	29	n/a
Topographic setting		n/a
Flags for instruments at site	NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN	n/a
Date of first construction		n/a
Date site established or inventoried		n/a
Drainage area		n/a
Contributing drainage area		n/a
Time Zone abbreviation	MST	n/a
Site honors Daylight Saving Time	Y	n/a
Data reliability	Unchecked data.	U
Data-other GW files	YYNYNYNN	n/a
National aquifer	Roswell Basin aquifer system	S400RSWLBS
Local aquifer	Alluvium, Bolson Deposits and Other Surface Deposits	110AVMB

Metadata Element	Location Metadata	Metadata Code
Local aquifer type		n/a
Well depth		n/a
Hole depth		n/a
Source of depth data		n/a
Project number	463527100	n/a

Questions or Comments

U.S. Fish and Wildlife Service
National Wetlands Inventory

Boyd Y Water Line Watercourse



September 19, 2023

Wetlands

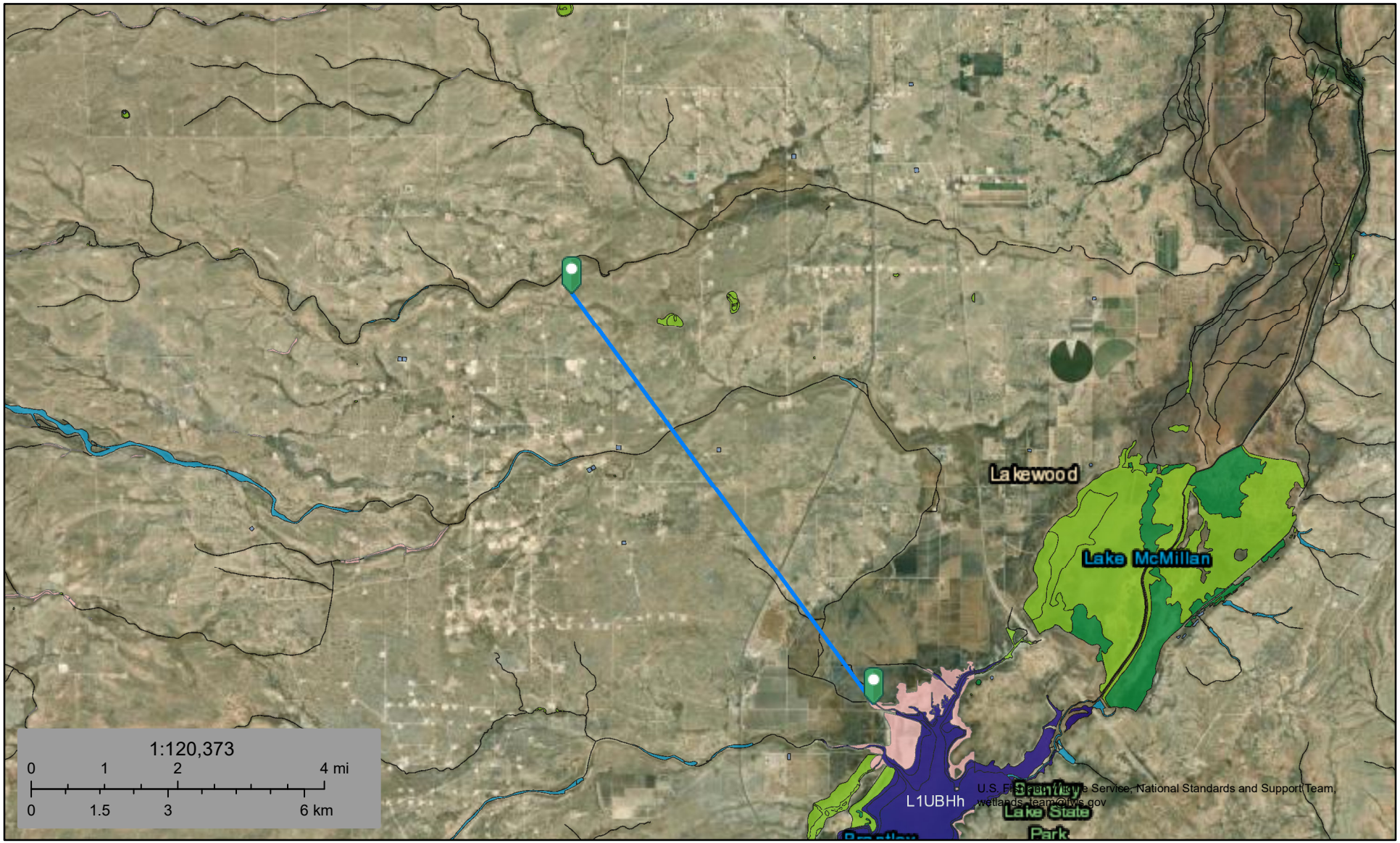
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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.

U.S. Fish and Wildlife Service

National Wetlands Inventory

Boyd Y Water Line Lake



September 19, 2023

Wetlands

- Estuarine and Marine Deepwater
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- Freshwater Emergent Wetland
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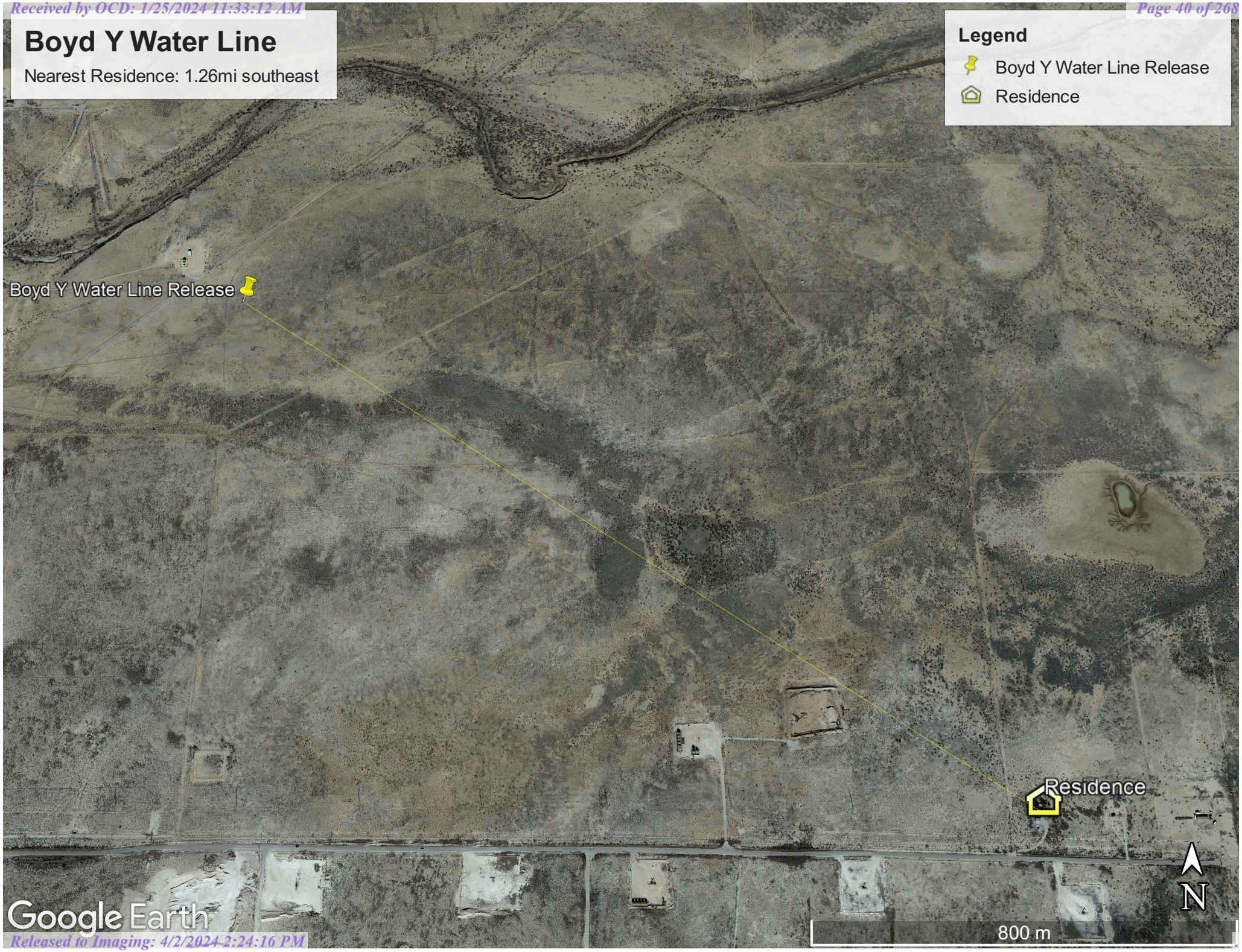
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Boyd Y Water Line

Nearest Residence: 1.26mi southeast



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 6416 4	Sec	Tws	Rng	X	Y	Distance
RA 05450	RA	STK	0	LEATHERWOOD DRILLING CO.	CH	RA 05450				Shallow	4 2	15	19S	25E	550057	3614015*	1041

Record Count: 1

UTMNAD83 Radius Search (in meters):

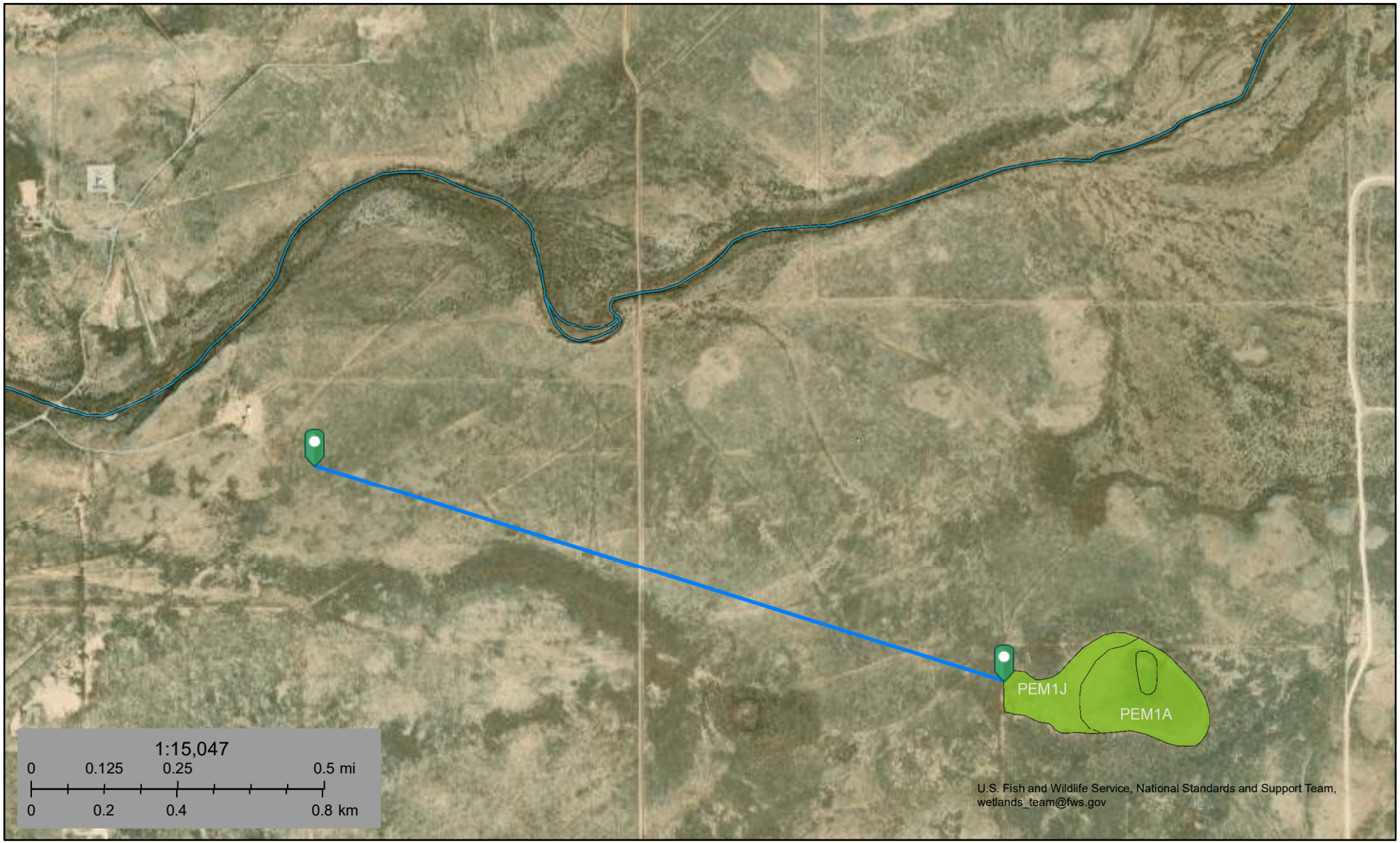
Easting (X): 551078 **Northing (Y):** 3614220 **Radius:** 1610

Sorted by: Distance

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Boyd Y Water Line Wetland



September 19, 2023

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.

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

Boyd Y Water Line Mine

9/19/2023, 8:49:06 AM

Land Ownership

P

PLSS Second Division

PLSS First Division

1:2,257

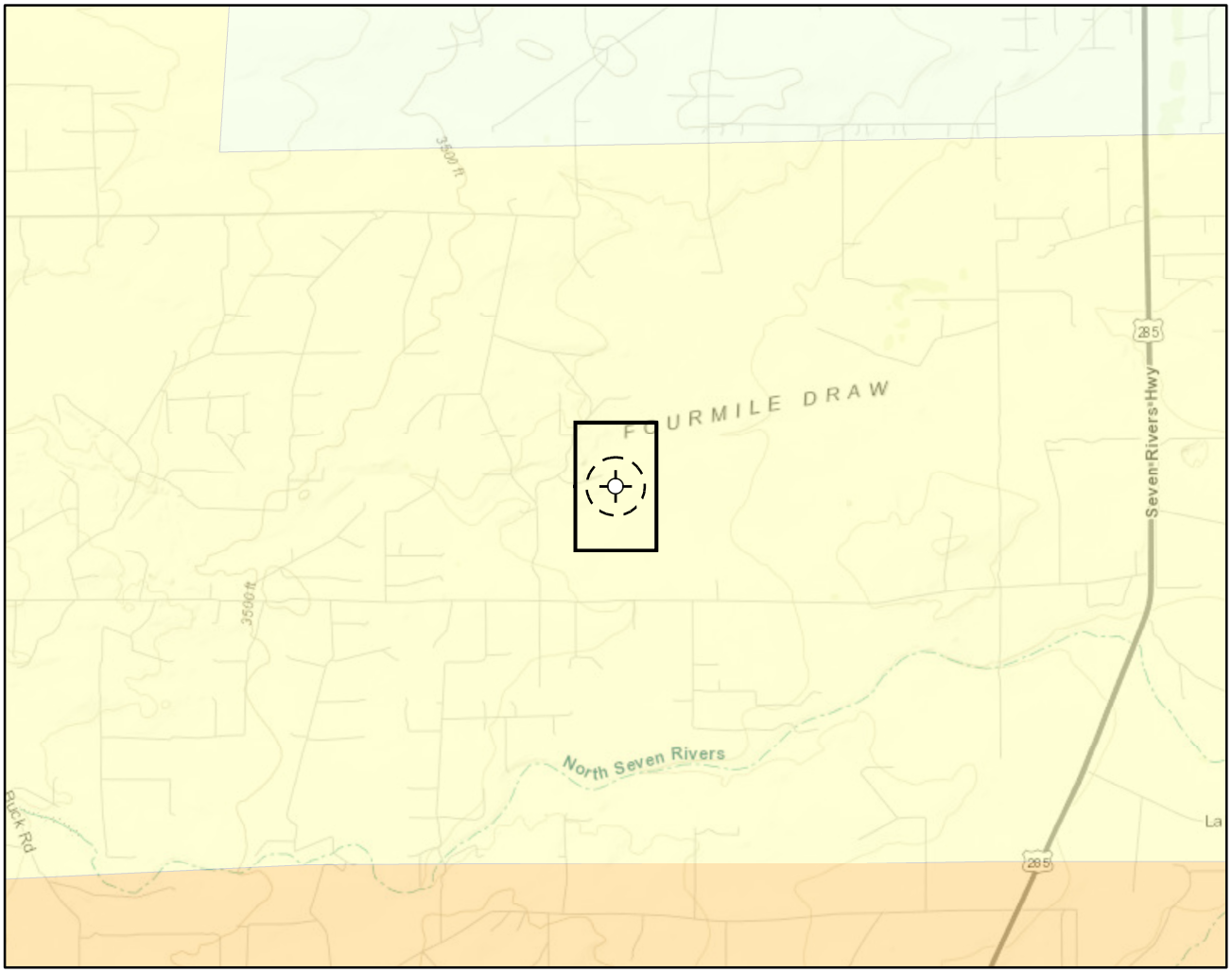
0 0.01 0.03 0.06 mi

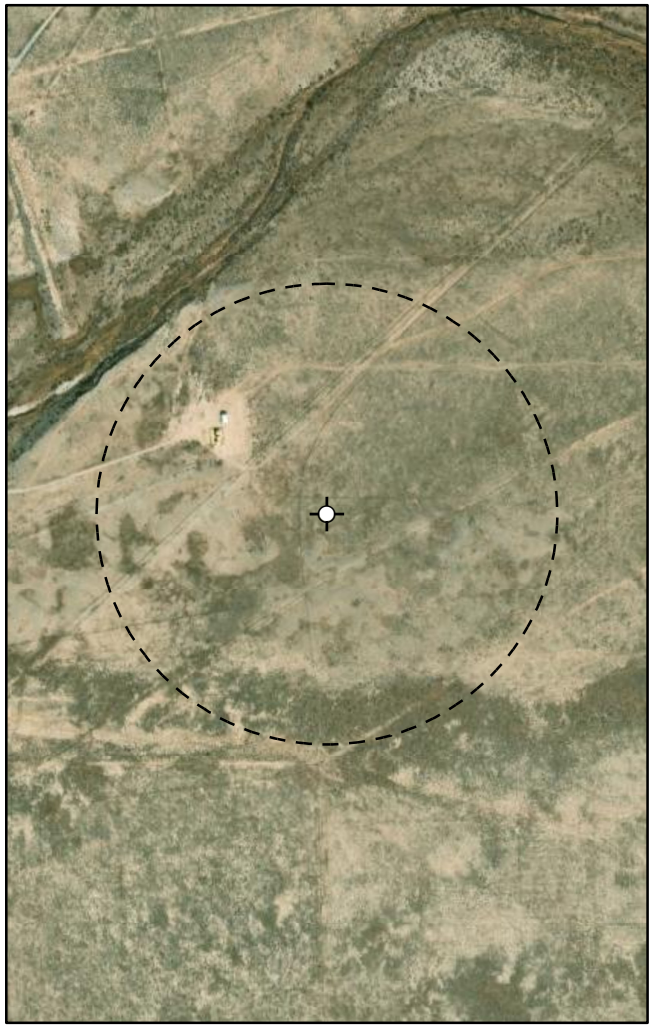
0 0.03 0.05 0.1 km

U.S. BLM, Maxar, Microsoft, Esri, HERE, Garmin, iPC, BLM

EMNRD MMD GIS Coordinator

NM Energy, Minerals and Natural Resources Department (http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795)





Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Buffer Location (~1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft

VERTEX

Map Center:
Lat/Long: 32.664452, -104.455277

NAD 1983 UTM Zone 13N
Date: Nov 02/23

N

Karst Potential Schematic
Boyd Y Water Transfer Line

FIGURE:
X

SILVERBACK EXPLORATION

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 2022; 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.

Document Path: G:\1-Projects_US PROJECTS\Silverback Exploration\23E-05378\Figure 1 KarstPotential Map (_mxd

National Flood Hazard Layer FIRMette

FEMA

104°27'38"W 32°40'7"N

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

1:6,000

104°27'W 32°39'37"N

Basemap Imagery Source: USGS National Map 2023

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
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/19/2023 at 10:53 AM 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 Eddy Area, New Mexico

September 19, 2023

Preface

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).

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

How Soil Surveys Are Made

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

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

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

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 (Boyd Y Water Line)

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, 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: Nov 12, 2022—Dec 2, 2022

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

Map Unit Legend (Boyd Y Water Line)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RE	Reagan-Upton association, 0 to 9 percent slopes	1.5	100.0%
Totals for Area of Interest		**1.5**	**100.0%**

Map Unit Descriptions (Boyd Y Water Line)

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 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.

Eddy Area, New Mexico

RE—Reagan-Upton association, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1w5d
Elevation: 1,100 to 5,400 feet
Mean annual precipitation: 6 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 180 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Reagan and similar soils: 70 percent
Upton and similar soils: 25 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reagan

Setting

Landform: Fan remnants, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 60 inches: 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
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: R042CY153NM - Loamy
Hydric soil rating: No

Description of Upton

Setting

Landform: Ridges, fans
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 13 inches: gravelly loam
H3 - 13 to 21 inches: cemented
H4 - 21 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 75 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R042CY159NM - Shallow Loamy
Hydric soil rating: No

Minor Components

Atoka

Percent of map unit: 3 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Pima

Percent of map unit: 2 percent
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

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Soil Map—Eddy Area, New Mexico
(Boyd Y Water Line)

Map Scale: 1:565 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

Soil Map—Eddy Area, New Mexico
(Boyd Y Water Line)

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, 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: Nov 12, 2022—Dec 2, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RE	Reagan-Upton association, 0 to 9 percent slopes	1.5	100.0%
Totals for Area of Interest		**1.5**	**100.0%**

All Ecological Sites -- —Eddy Area, New Mexico
(Boyd Y Water Line)

All Ecological Sites -- —Eddy Area, New Mexico
(Boyd Y Water Line)

MAP LEGEND

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

Soils

Soil Rating Polygons
- R042CY153NM
- Not rated or not available

Soil Rating Lines
- R042CY153NM
- Not rated or not available

Soil Rating Points
- R042CY153NM
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

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All Ecological Sites —

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
RE	Reagan-Upton association, 0 to 9 percent slopes	Reagan (70%)	R042CY153NM — Loamy	1.5	100.0%
		Upton (25%)	R042CY159NM — Shallow Loamy		
		Atoka (3%)	R070BC007NM — Loamy		
		Pima (2%)	R070BC017NM — Bottomland		
Totals for Area of Interest				**1.5**	**100.0%**

USDA Natural Resources Conservation Service

Ecological site R070BC007NM
Loamy

Accessed: 12/18/2023

General information

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

Figure 1. Mapped extent

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

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on uplands landforms, mainly on hill slopes, ridges, plains, terraces and some fan remnants. Slopes range from 1 to 5 percent and average about 3 percent. Average annual precipitation is about 8 to 14 inches. Elevations range from 2,842 to 5,000 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Terrace (3) Fan piedmont
Flooding frequency	None
Ponding frequency	None
Elevation	2,842–5,000 ft
Slope	0–5%
Aspect	E, S, W

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 is in late March or early April, and the first killing frost is in late October or early November.

Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Strong winds blow from the southwest in January through June rapidly drying out the soil during a critical time 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 by wetland or streams.

Soil features

The soils of this site are deep to moderately deep. The moderately deep soils have either a petrocalcic, petrogypsic or gypsum horizon between 30 and 40 inches.

Surface textures are loam, silt loam, very fine sandy loam, or clay loam. Substratum textures are loam, silty clay loam, clay loam, or silt loams. Subsoil textures are silt loam , clay loam silty clay loam, gravelly loam, gravelly clay loam or very gravelly loam. Permeability is moderate to slow and the available water holding capacity is high to moderate. The Atoka, Reeves, Russler, Milner soils may have highr amounts of CaC03, ranging as high as 40 percent in the subsoil. Rock fragments range fro 5 to 50 percent in the subsoil. Reeves, Rusler, Milner, Holloman soils will have 40 to 80 percent gypsum in the underlying material.

Maximum and minimum values listed below represent the characteristic soils for this site.

Characteristic Soils:

Atoka (petrocalcic)
Bigetty
Reagan
Reakor
Reeves (gypsum)
Russler (gypsum)
Largo
Russler (gypsum)
Largo
Berino
Tinney
Midessa
Ratliff
Holloman (gypsum)
Milner (gypsum)

Table 4. Representative soil features

Surface texture	(1) Loam (2) Very fine sandy loam (3) Silt loam
Family particle size	(1) Loamy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to slow
Soil depth	30–72 in

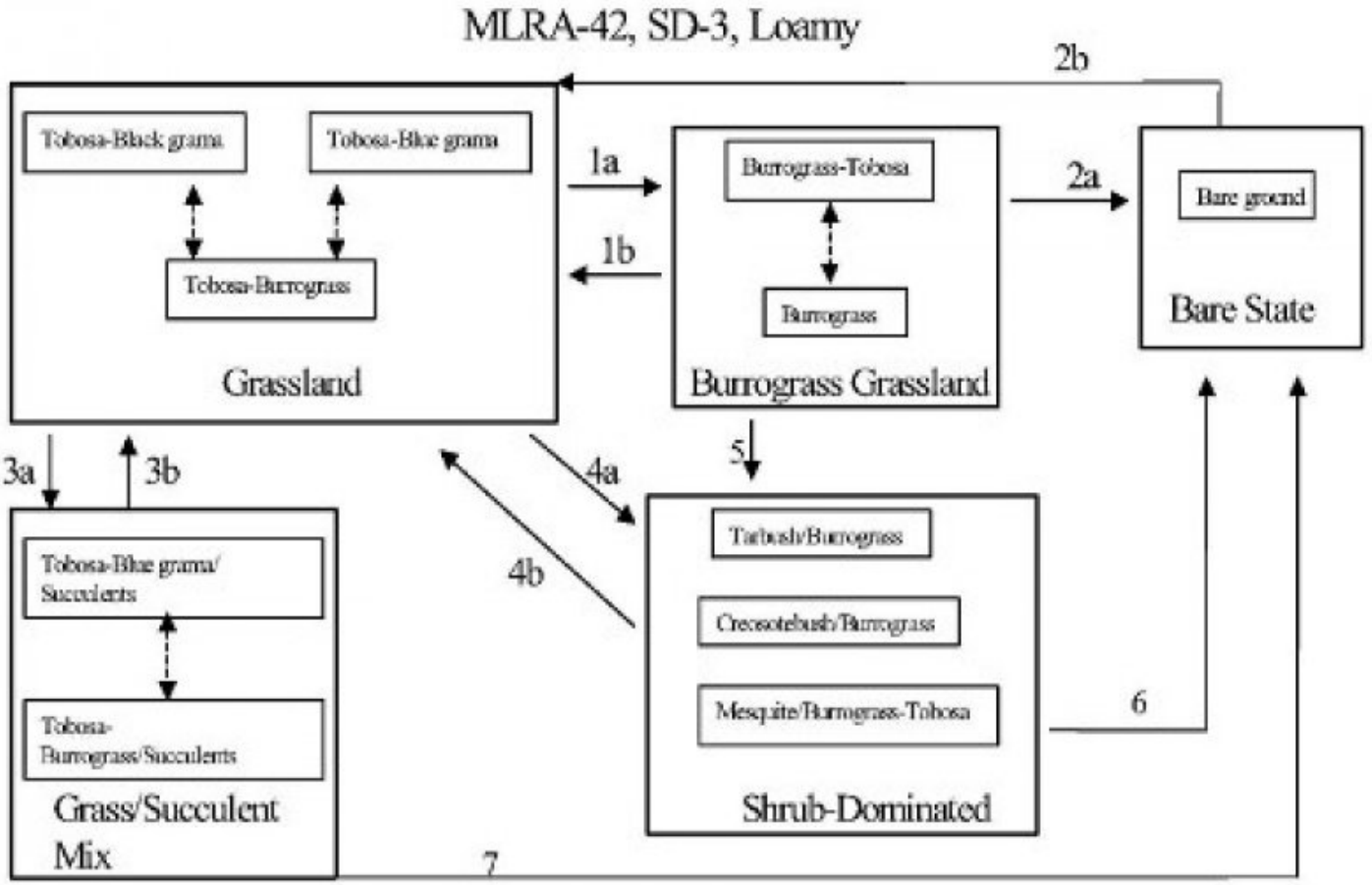
Surface fragment cover <=3"	0–5%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–12 in
Calcium carbonate equivalent (0-40in)	0–10%
Electrical conductivity (0-40in)	0–8 mmhos/cm
Sodium adsorption ratio (0-40in)	0–6
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	0–5%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview: The Loamy site is associated with the Gyp Upland ecological site with which it intergrades. There is a pronounced increase in alkali sacaton along this interface. The loamy site is also associated with the Gravelly and Shallow ecological sites from which it receives run-on water. The Draw site often dissects Loamy sites and is distinguished from the Loamy site by increased production or greater densities of woody species. The historic plant community has a grassland aspect, dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Tobosa, black grama and blue grama are the dominant species. Retrogression within this state is characterized by a decrease in black and blue grama and an increase in burrograss. Continuous overgrazing and drought can initiate a transition to a Burrograss- Grassland state. Continued reduction in grass cover and resulting infiltration problems may eventually effect a change to a Bare State, with very little or no remaining grass cover. Alternatively, creosotebush, tarbush or mesquite may expand or invade. Transitions back to a Grassland State from a Bare or Shrub-Dominated state are costly and may not be economically feasible. Decreased fire frequency may play a part in the transition to the Grass/Succulent Mix state with increased amounts of cholla and prickly pear.

State and transition model

Plant Communities and Transitional Pathways (diagram)



1a. Soil drying, overgrazing, drought, soil surface sealing. 1b. Restore natural overland flow, increase infiltration, prescribed grazing.

2a. Severe reduction in cover, soil surface sealing, decreased infiltration, erosion. 2b. Restore hydrology, break up physical crust, range seeding, prescribed grazing.

3a. Lack of fire, overgrazing, hail storms or other physical disturbance, drought. 3b. Prescribed fire, brush control, prescribed grazing.

4a. Seed dispersal of shrubs, persistent loss of grass cover, competition by shrubs, lack of fire. 4b. Brush control, range seeding -dependent on amount of grass (seed bank) remaining.

5. Loss of grass cover, seed dispersal of shrubs, competition by shrubs.

6. & 7. Brush control with continued loss of grass cover, soil sealing, erosion.

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

State Containing Historic Climax Plant Community Grassland: The historic plant community has a grassland aspect, dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Black grama, blue grama, and tobosa are the dominant grass species. There are a variety of perennial forbs and their production varies widely by season and year. Globemallow, verbena, groundsels, croton and filaree are forbs commonly found on this site. Fourwing saltbush and winterfat are two of the more palatable shrubs. The Loamy ecological site encompasses a

wide variety of soils, with surface textures ranging from sandy loams to clay loams. Soil depths range from shallow to very deep and can include sub surface features such as calcic, petrocalcic, and gypsic horizons. These variations cause differences in plant community composition and dynamics. Black grama is found at highest densities on coarser textured sandy loams, with blue grama preferring finer textured loam and silt loam, and tobosa favoring lower landscape positions and loam to clay loam surface textures. Burrograss may often be the dominant grass species on silty soils, perhaps in part due to the seedlings ability to auger into and establish on physically crusted soils. Gypsum influenced soils typically have greater amounts of tobosa, burrograss, and ephedra. There is greater representation of sideoats and vine mesquite within the tobosa-blue grama community. Retrogression under continuous heavy grazing results in a decrease of black grama, blue grama, sideoats grama, plains bristlegrass, bush muhly, cane bluestem, vine mesquite, winterfat, and fourwing saltbush. Species such as burrograss, threeawns, sand dropseed, sand muhly, and broom snakeweed increase under continuous heavy grazing or prolonged periods of drought. Under continued retrogression burrograss can completely dominate the site. Creosotebush, tarbush, and mesquite, can also dominate. Cholla and prickly pear can increase on areas that are disturbed or overgrazed. Diagnosis: Tobosa, black grama, and blue grama are the dominant species. Grass cover is uniformly distributed with few large bare areas. Shrubs are sparse and evenly distributed. Slopes range from level to gently sloping and usually display limited evidence of active rills and gully formation if plant cover remains intact. Litter movement associated with overland flow is limited to smaller size class litter and short distances. Other shrubs include: yucca, mesquite, tarbush, cholla and creosote bush. Other forbs include: desert holly, scorpionweed, bladderpod, flax, nama, fleabane, Indianwheat, Indian blanket flower, groundcherry, deerstongue, and rayless goldenrod.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	585	833	1080
Forb	39	55	72
Shrub/Vine	26	37	48
Total	**650**	**925**	**1200**

Table 6. Ground cover

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

Figure 5. Plant community growth curve (percent production by month). NM2807, R042XC007NM Loamy HCPC. R042XC007NM Loamy HCPC Warm Season Plant Community..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	10	10	25	30	15	5	0	0

State 2

Burrograss-Grassland

Community 2.1
Burrograss-Grassland

Burrograss-Grassland: Changes in hydrology resulting in decreased available soil moisture, reduces grass cover and increases bare ground. Burrograss is the dominant grass. Tobosa cover is variable and can range from sizeable areas to small patches occupying only depressions or the lowest and wettest positions within the site. Threeawns, ear muhly, sand muhly, and fluffgrass occur at increased densities compared to the grassland state. Shrub densities may increase especially mesquite, creosotebush or tarbush. Retrogression within this state is characterized by a further decrease in grass cover and increased bare ground. Further deterioration of this site can result in the transition to a bare state or becoming shrub dominated. Diagnosis: Burrograss is the dominant species. Grass cover is no longer uniformly distributed, instead tending to be patchy with large areas of bare ground present. Physical crusts are present in bare areas reducing infiltration and suppressing seedling establishment by any grass species other than burrograss. Transition to Burrograss-Grassland (1a): Transitions from grassland to a burrograss-grassland state may occur due to changes in hydrology. Gullies, roads or obstructions that alter natural water flow patterns may cause this transition. Changes in surface hydrology may also occur due to overgrazing or drought. The reduction in grass cover promotes increased soil physical crusts and reduces infiltration. 5 Key indicators of approach to transition: ? Diversion of overland flow resulting in decreased soil moisture. ? Increase in amount of burrograss cover ? Reduction in grass cover and increase in size and frequency of bare patches. ? Formation of physical crusts—indicating reduced infiltration. ? Evidence of litter movement—indicating loss or redistribution of organic matter. Transition back to Grassland (1b) The natural hydrology of the site must be returned. Culverts, turnouts, or rerouting roads may help re-establish natural overland flow, if roads or trails have altered the hydrology. Erosion control structures or shaping and filling gullies may help regain natural flow patterns and establish vegetation if the flow has been channeled. Breaking up physical crusts by soil disturbance may promote infiltration and seedling emergence. Allow natural revegetation to take place. Prescribed grazing will help ensure proper forage utilization and reduce grass loss due to grazing.

State 3
Bare State

Community 3.1
Bare State

Bare State: Extremely low ground cover, soil degradation and erosion characterize this state. Very little vegetation remains. Burrograss is the dominant grass and cover is extremely patchy. Physical soil crusts are extensive. Erosion and resource depletion increase as site degrades. Diagnosis: Very little cover remains. Erosion is evident by soil sealing, water flow patterns, pedestals or terracettes. Rills and gullies may be present and active. Transition to Bare State (2a): Extended drought, continuous heavy grazing, or other disturbance that severely depletes grass cover can effect this transition. As grass cover decreases, sheet flow and erosion increase, and physical soil crusts form, thereby further reducing infiltration. Key indicators of approach to transition: ? Continued reduction in grass cover. ? Increased soil surface sealing. ? Increased erosion. ? Reduced aggregate stability in bare areas. Transition back to Grassland (2b) Restore the hydrology, see (1a). With the extent of grass loss range seeding may be necessary. Utilizing livestock or mechanical means to break up the physical crusts may increase infiltration and aid seedling establishment. Prescribed grazing will help ensure adequate deferment period following seeding, and proper forage utilization once the grass stand is well established. The degree to which this site is capable of recovery depends on the restoration of hydrology, extent of degradation to soil resources, and adequate rainfall necessary to establish grasses.

State 4
Grass/Succulent Mix

Community 4.1
Grass/Succulent Mix

Grass / Succulent Mix: Increased representations of succulents characterize this site. Increased densities of cholla or pricklypear is recognized as a management concern, but their impact on grass production is unclear. Light to

medium cholla or prickly pear infestation doesn't seem to greatly reduce grass production, however it limits access to palatable grasses and interferes with livestock movement and handling. Tobosa and blue grama are the dominant species on this site. Retrogression within this site is characterized by a decrease in blue grama and an increase in succulents, tobosa and burrograss. Diagnosis: Cholla or prickly pear is found at increased densities. Grass cover is variable ranging from uniformly distributed to patchy with frequent areas of bare ground present. Tobosa or blue grama is the dominant grass species. Transition to Grass/Succulent Mix (3a): If fire was historically a part of desert grassland ecosystem and played a role in suppressing seedlings of shrubs and succulents, then fire suppression may favor the increase of succulents.1 Heavy grazing by livestock or other physical disturbances may help disseminate seed and increase the establishment of succulents. Areas historically overgrazed by sheep are sometimes associated with higher densities of Succulents. Intense hailstorms can spread pricklypear by breaking off joints causing new plants to take root.3 During severe drought perennial grass cover can decline significantly, leaving resources available for use by more drought tolerant succulents. Cholla and pricklypear are both adapted to and favored by drought due to the ability of their shallow, wide spreading root systems to absorb and store water.4 Key indicators of approach to transition: ? Decrease or change in distribution of grass cover. ? Increase in amount of succulent seedlings. ? Increased cover of succulents. Transition back to Grassland (3b) Fire is an effective means of controlling cholla and prickly pear if adequate grass cover remains to carry fire.2 Cholla greater than two feet tall or pricklypear with a large amount of pads (>15-20) are harder to kill. Chemical control is effective in controlling prickly pear and cholla; apply when growth starts in May. Hand grubbing is also effective if cholla or pricklypear is severed 2-4 inches below ground and care is taken not to let broken joints or pads take root. Stacking and burning piles and grubbing during winter or drought help keeps broken joints and pads from rooting. Prescribed grazing will help ensure proper forage utilization and sustain grass cover.

State 5
Shrub Dominated

Community 5.1
Shrub Dominated

Shrub Dominated: Increased shrub cover characterizes this state. Mesquite, creosotebush, and/or tarbush are the dominant shrub species. Burrograss or tobosa is the dominant grass species. Grass cover is decreased, typically patchy with large bare areas present; however, sometimes grass cover can remain relatively high for extended periods when associated with light to moderate infestations of mesquite. Variations in soil characteristics play a part in determining which shrub species increase. Mesquite is well adapted to a wide range of soil types, but increases more often on deep soils low in carbonates, that have a sandy surface overlying finer textured soils. Tarbush prefers finer textured, calcareous soils, usually in lower positions that receive some extra water. Creosotebush is less tolerant of fine textured soils, preferring sandy, calcareous soils that have some gravel. Creosotebush also does well on soils that are shallow over caliche. Retrogression within this state is characterized by a decrease in tobosa, and an increase in burrograss. As the site continues to degrade shrub cover continues to increase and grass cover is severely reduced. Diagnosis: Mesquite, Creosotebush, and/or tarbush are the dominant shrubs. Blue grama and black grama cover is low or absent. Burrograss or tobosa are the dominant grasses. Typically grass cover is patchy with large interconnected bare areas present. Physical soil crusts are present, especially on silt loam surface soils. Transition to Shrub Dominated (4a): Wildlife and livestock consume and disperse mesquite seeds. Flood events may wash creosote or tarbush seeds off adjacent gravelly sites onto the loamy site and supply adequate moisture for germination. Persistent loss of grass cover due to overgrazing or drought can cause large bare patches, providing competition free areas for shrub seedling establishment. As shrub cover increases, competition for soil resources, especially water, becomes a major factor in further reducing grass cover. Reduction of fire, due to either fire suppression policy or loss of adequate fine fuels may increase the probability of shrub encroachment. Increased soil surface physical crusts and associated decreased infiltration, may prevent the establishment of grass seedlings. Transition to Shrub Dominated (5): The dispersal of creosotebush, tarbush or mesquite seed, combined with loss of grass cover and resource competition by shrubs may cause this transition. Key indicators of approach to transition: ? Decreased grass and litter cover. ? Increased bare patch size. ? Increased physical soil crusts. ? Increased amount of mesquite, creosotebush, or tarbush seedlings. ? Increased shrub cover. Transition back to Grassland (4b) Brush control will be necessary to remove shrubs and eliminate competition for resources necessary for grass establishment or reproduction. Seeding may be necessary on those sites where desired grass species are absent or very limited. Pitting and seeding may increase the chances of successful grass establishment. Prescribed grazing will help ensure adequate time is elapsed before grazing seeded area is allowed and proper forage utilization following seeding establishment. Transition to Bare State (6): If grass cover on the shrub-dominated state is

severely limited and shrubs are removed a bare state may result. This transition will depend on amount of grasses or seed remaining, whether site is seeded, or if seeding is successful. Transition to Bare State (7): Removal of succulents and continued overgrazing or drought may cause loss of remaining grasses and erosion. Soil surface physical crusting may also be an important factor in inhibiting grass seedling establishment

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Warm Season**			278–324	
	tobosagrass	PLMU3	*Pleuraphis mutica*	278–324	–
2	**Warm Season**			9–46	
	burrograss	SCBR2	*Scleropogon brevifolius*	9–46	–
3	**Warm Season**			231–278	
	black grama	BOER4	*Bouteloua eriopoda*	231–278	–
	blue grama	BOGR2	*Bouteloua gracilis*	231–278	–
4	**Warm Season**			28–46	
	sideoats grama	BOCU	*Bouteloua curtipendula*	28–46	–
5	**Warm Season**			46–93	
	bush muhly	MUPO2	*Muhlenbergia porteri*	46–93	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	46–93	–
6	**Warm Season**			9–28	
	Arizona cottontop	DICA8	*Digitaria californica*	9–28	–
7	**Warm Season**			46–93	
	threeawn	ARIST	*Aristida*	46–93	–
	muhly	MUHLE	*Muhlenbergia*	46–93	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	46–93	–
8	**Warm Season**			28–46	
	Graminoid (grass or grass-like)	2GRAM	*Graminoid (grass or grass-like)*	28–46	–
Shrub/Vine					
9	**Shrub**			9–28	
	fourwing saltbush	ATCA2	*Atriplex canescens*	9–28	–
	jointfir	EPHED	*Ephedra*	9–28	–
	winterfat	KRLA2	*Krascheninnikovia lanata*	9–28	–
	cane bluestem	BOBA3	*Bothriochloa barbinodis*	5–24	–
	Arizona cottontop	DICA8	*Digitaria californica*	5–24	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	5–24	–
10	**Shrub**			9–28	
	javelina bush	COER5	*Condalia ericoides*	9–28	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	9–28	–
	Grass, annual	2GA	*Grass, annual*	5–15	–
11	**Shrubs**			9–28	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	9–28	–
Forb					

12	**Forb**			9–46	
	threadleaf ragwort	SEFLF	*Senecio flaccidus var. flaccidus*	9–46	–
	globemallow	SPHAE	*Sphaeralcea*	9–46	–
	verbena	VEPO4	*Verbena polystachya*	9–46	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	5–15	–
	pricklypear	OPUNT	*Opuntia*	5–15	–
13	**Forb**			9–28	
	croton	CROTO	*Croton*	9–28	–
	woolly groundsel	PACA15	*Packera cana*	9–28	–
14	**Forb**			9–28	
	Goodding's tansyaster	MAPIG2	*Machaeranthera pinnatifida ssp. gooddingii var. gooddingii*	9–28	–
	woolly paperflower	PSTA	*Psilostrophe tagetina*	9–28	–
15	**Forb**			9–28	
	redstem stork's bill	ERCI6	*Erodium cicutarium*	9–28	–
	Texas stork's bill	ERTE13	*Erodium texanum*	9–28	–
16	**Forb**			9–28	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	9–28	–

Animal community

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, black-tailed jackrabbit, black tailed prairie dog, yellow-faced pocket gopher, banner-tailed kangaroo rat, hispid cotton rat, swift fox, burrowing owl, horned lark, mockingbird, meadowlark, mourning dove, scaled quail, Great Plains toad, plains spadefoot toad, prairie rattlesnake and western coachwhip shake.

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
Atoka C
Bigetty B
Ratliff B
Reyab B
Holloman B
Largo B
Holloman B
Bigetty B
Berino B
Reagan B
Reakor B
Reeves B
Russler C

Recreational uses

This site offers limited potential for hiking, horseback riding, nature observation and photography. Game bird, antelope and predator hunting are also limited.

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, during all seasons of the year. Under retrogression, such plants as black grama, blue grama, sideoats grama, bush muhly, plains bristlegrass, Arizona cottontop, fourwing saltbush and winterfat decrease and there is an increase in burrograss, threeawns, sand dropseed, muhlys, broom snakeweed and javilinabush. Under continued retrogression, burrograss can completely dominate the site. Creosotebush, mesquite, and tarbush can also dominate. Grazing management alone will not improve the site in the above situation. This site is well suited 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 3.0 – 4.2
75 – 51 4.1 – 5.5
50 – 26 5.3 – 7.0
25 – 0 7.1 +

Inventory data references

Other 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 Chavez County.

Other references

Literature References:

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3. Laycock, W.A. 1982. Hail as an ecological factor in the increase of prickly
pear cactus. p. 359-361. In: J.A. Smith and V.W. Hays (eds.) Proc. XIV Int. Grassland Congr. Westview Press, Boulder, Colo.

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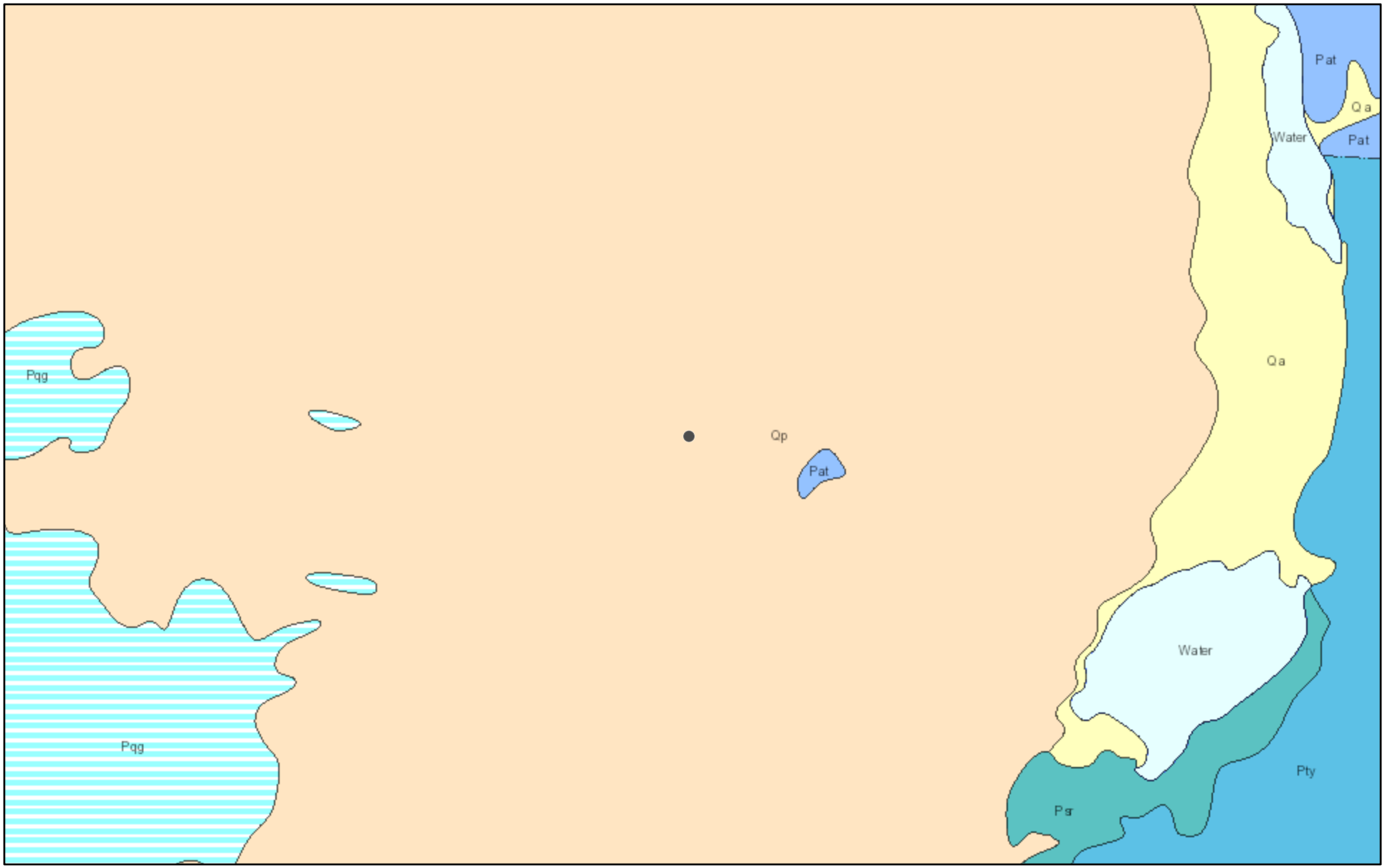
5. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheet. Rangeland Soil Quality—Physical and Biological Soil Crusts. Rangeland Sheet 6, [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

Contributors

David Trujillo
Don Sylvester

Boyd Y Water Line Geology



9/19/2023, 10:01:56 AM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Lithologic Units

- Playa—Alluvium and evaporite deposits (Holocene)
- Water—Perenial standing water
- Qa—Alluvium (Holocene to upper Pleistocene)

Esri, NASA, NGA, USGS, NMBGMR, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names

ArcGIS Web AppBuilder

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global

APPENDIX C – Daily Field Reports

Daily Site Visit Report

Client:	Silverback Exploration	Inspection Date:	10/20/2023
Site Location Name:	Boyd Y Water Transfer Line	Report Run Date:	10/20/2023 8:24 PM
Client Contact Name:	Mark Ritchie	API #:	
Client Contact Phone #:	713-553-8320		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	10/20/2023 9:00 AM
Departed Site	10/20/2023 2:30 PM

Field Notes

9:34 Arrived at location and filled out safety paperwork. On site to continue site characterization/delineation.

14:22 Collected BH23-08, 09, 10, 11, 12, 13, 14, & 15 @ depths of 0-2ft. Field screened soil samples for chlorides and TPH. Placed samples into glass jars and will send in for laboratory analysis. Added sample points to Field Maps and DSS.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

BH23-15 @ 0-2ft

Viewing Direction: West

BH23-14 @ 0-2ft

Viewing Direction: Northeast

BH23-13 @ 0-2ft

Viewing Direction: Northeast

BH23-12 @ 0-2ft

Daily Site Visit Report

Viewing Direction: East

BH23-11 @ 0-2ft

Viewing Direction: East

BH23-10 @ 0-2ft

Viewing Direction: Southeast

BH23-09 @ 0-2ft

Viewing Direction: Southwest

BH23-08 @ 0-2ft

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Fernando Rodriguez

Signature: 

Daily Site Visit Report

Client:	Silverback Exploration	Inspection Date:	12/15/2023
Site Location Name:	Boyd Y Water Transfer Line	Report Run Date:	12/15/2023 11:34 PM
Client Contact Name:	Mark Ritchie	API #:	
Client Contact Phone #:	713-553-8320		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	12/15/2023 7:00 AM
Departed Site	12/15/2023 3:03 PM

Field Notes

10:12 Arrived at location and filled out safety paperwork. On site to collect confirmatory samples from remaining areas of the excavation.

14:37 Collected base samples and labeled as BS23- 39-70 @ 2ft. Field screened soil samples for chlorides and some for TPH. Placed samples into glass jars and will be sent in for laboratory analysis. Added sample points to Field Maps and DSS.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

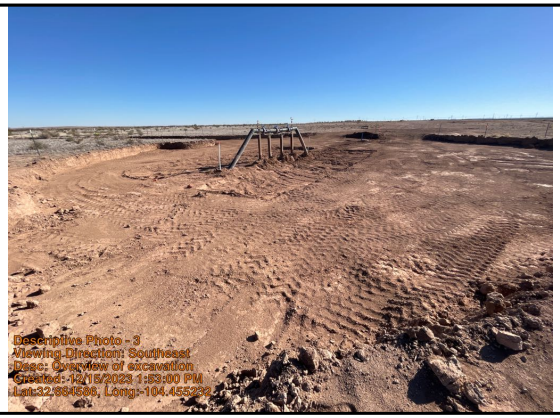
Viewing Direction: South

Overview of excavation

Viewing Direction: South

Overview of excavation

Viewing Direction: Southeast

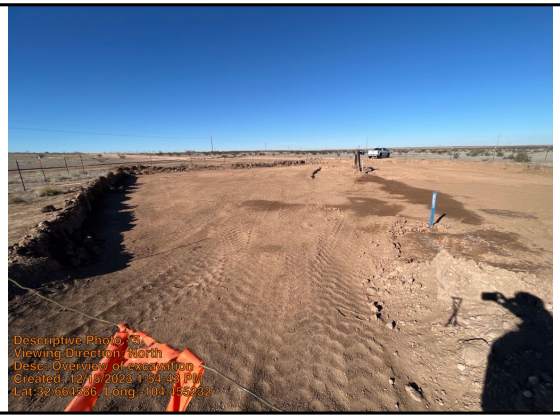


Overview of excavation

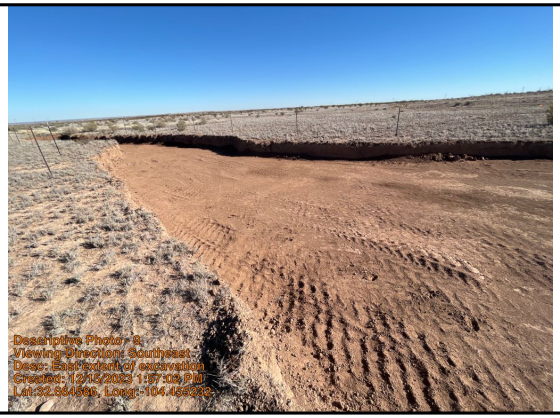
Viewing Direction: East

Overview of excavation

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: Northeast
	
Overview of excavation	Overview of excavation
Viewing Direction: West	**Viewing Direction**: Southwest
	
Overview of excavation	Overview of excavation

Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: Southwest
	
East extent of excavation	East extent of excavation
Viewing Direction: West	**Viewing Direction**: Southwest
	
East extent of excavation	East extent of excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Fernando Rodriguez

Signature: 

Daily Site Visit Report

Client:	Silverback Exploration	Inspection Date:	1/9/2024
Site Location Name:	Boyd Y Water Transfer Line	Report Run Date:	1/9/2024 10:41 PM
Client Contact Name:	Mark Ritchie	API #:	
Client Contact Phone #:	713-553-8320		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	1/9/2024 3:00 PM
Departed Site	1/9/2024 3:14 PM

Field Notes

15:03 Excavation has been backfilled and reclamation work has been completed. Pasture areas had been fenced, ripped, and seeded with SLO loamy seed mix.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

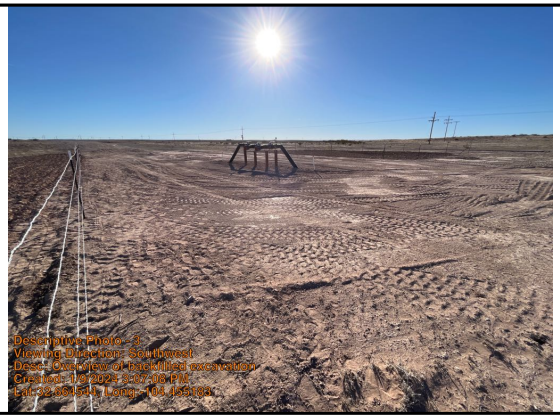
Viewing Direction: Southwest

East extent of reclamation

Viewing Direction: South

Overview of backfilled excavation

Viewing Direction: Southwest



Overview of backfilled excavation

Viewing Direction: Northwest

Overview of backfilled excavation

Daily Site Visit Report

Viewing Direction: Northeast	**Viewing Direction**: Northwest
	
Overview of backfilled excavation	Reclaimed areas to the west
Viewing Direction: Southwest	**Viewing Direction**: East
	
Reclaimed areas to the west	Reclaimed areas to the west

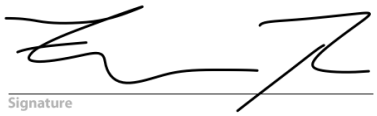
Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: Northeast
	
Reclaimed areas to the east	Reclaimed areas to the east
Viewing Direction: Northwest	**Viewing Direction**: Northeast
	
Reclaimed areas to the east	Reclaimed areas to the east

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Fernando Rodriguez

Signature: 

APPENDIX D – Notifications

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 292546

QUESTIONS

Operator: Silverback Operating II, LLC 19707 IH10 West, Suite 201 San Antonio, TX 78256	OGRID: 330968
	Action Number: 292546
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2326256394**
Incident Name	**NAPP2326256394 BOYD Y WATER TRANSFER LINE @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Notification Accepted**

Location of Release Source	
Site Name	**Boyd Y Water Transfer Line**
Date Release Discovered	**09/16/2023**
Surface Owner	**Private**

Sampling Event General Information *Please answer all the questions in this group.*	
What is the sampling surface area in square feet	13,645
What is the estimated number of samples that will be gathered	80
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	12/12/2023
Time sampling will commence	07:00 AM
Please provide any information necessary for observers to contact samplers	(575) 361-4509 Fernando Rodriguez frodriguez@silverbackexp.com
Please provide any information necessary for navigation to sampling site	Navigation to location is 0.67mi North of the Boyd Y CTB at coordinates: 32.664452, -104.455277.

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
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 292546

CONDITIONS

Operator: Silverback Operating II, LLC 19707 IH10 West, Suite 201 San Antonio, TX 78256	OGRID: 330968
	Action Number: 292546
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
htreffert	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	12/7/2023

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 293847

QUESTIONS

Operator: Silverback Operating II, LLC 19707 IH10 West, Suite 201 San Antonio, TX 78256	OGRID: 330968
	Action Number: 293847
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2326256394**
Incident Name	**NAPP2326256394 BOYD Y WATER TRANSFER LINE @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Notification Accepted**

Location of Release Source	
Site Name	**Boyd Y Water Transfer Line**
Date Release Discovered	**09/16/2023**
Surface Owner	**Private**

Sampling Event General Information *Please answer all the questions in this group.*	
What is the sampling surface area in square feet	13,645
What is the estimated number of samples that will be gathered	32
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	12/15/2023
Time sampling will commence	07:00 AM
Please provide any information necessary for observers to contact samplers	(575) 361-4509 Fernando Rodriguez frodriguez@silverbackexp.com
Please provide any information necessary for navigation to sampling site	Navigation to location is 0.67mi North of the Boyd Y CTB at coordinates: 32.664452, -104.455277.

District I
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Phone:(575) 393-6161 Fax:(575) 393-0720
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State of New Mexico
Energy, Minerals and Natural Resources
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1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 293847

CONDITIONS

Operator: Silverback Operating II, LLC 19707 IH10 West, Suite 201 San Antonio, TX 78256	OGRID: 330968
	Action Number: 293847
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
htreffert	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	12/12/2023

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 03, 2023

Chance Dixon

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

RE: Boyd Y Water Transfer OrderNo.: 2310A70

Dear Chance Dixon:

Eurofins Environment Testing South Central, LLC received 15 sample(s) on 10/21/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-01 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/17/2023 1:00:00 PM
Lab ID: 2310A70-001 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/24/2023 12:42:17 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/24/2023 12:42:17 PM
Surr: DNOP	77.6	69-147		%Rec	1	10/24/2023 12:42:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/24/2023 6:33:42 PM
Surr: BFB	95.6	15-244		%Rec	1	10/24/2023 6:33:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	10/24/2023 6:33:42 PM
Toluene	ND	0.047		mg/Kg	1	10/24/2023 6:33:42 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/24/2023 6:33:42 PM
Xylenes, Total	ND	0.094		mg/Kg	1	10/24/2023 6:33:42 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	10/24/2023 6:33:42 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/26/2023 5:46:33 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-01 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/17/2023 1:05:00 PM
Lab ID: 2310A70-002 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/24/2023 12:53:12 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2023 12:53:12 PM
Surr: DNOP	92.4	69-147		%Rec	1	10/24/2023 12:53:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/24/2023 6:57:03 PM
Surr: BFB	98.7	15-244		%Rec	1	10/24/2023 6:57:03 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	10/24/2023 6:57:03 PM
Toluene	ND	0.047		mg/Kg	1	10/24/2023 6:57:03 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/24/2023 6:57:03 PM
Xylenes, Total	ND	0.094		mg/Kg	1	10/24/2023 6:57:03 PM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	10/24/2023 6:57:03 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/26/2023 7:50:38 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-02 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/17/2023 1:10:00 PM
Lab ID: 2310A70-003 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/24/2023 1:04:07 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2023 1:04:07 PM
Surr: DNOP	72.8	69-147		%Rec	1	10/24/2023 1:04:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/24/2023 7:20:29 PM
Surr: BFB	97.3	15-244		%Rec	1	10/24/2023 7:20:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	10/24/2023 7:20:29 PM
Toluene	ND	0.048		mg/Kg	1	10/24/2023 7:20:29 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/24/2023 7:20:29 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/24/2023 7:20:29 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	10/24/2023 7:20:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/26/2023 8:27:51 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-02 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/17/2023 1:15:00 PM
Lab ID: 2310A70-004 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/25/2023 5:01:39 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/25/2023 5:01:39 PM
Surr: DNOP	99.0	69-147		%Rec	1	10/25/2023 5:01:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/25/2023 12:02:55 AM
Surr: BFB	94.3	15-244		%Rec	1	10/25/2023 12:02:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 12:02:55 AM
Toluene	ND	0.048		mg/Kg	1	10/25/2023 12:02:55 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/25/2023 12:02:55 AM
Xylenes, Total	ND	0.096		mg/Kg	1	10/25/2023 12:02:55 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	10/25/2023 12:02:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/26/2023 8:40:15 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-03 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/17/2023 1:20:00 PM
Lab ID: 2310A70-005 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	9.6	9.4		mg/Kg	1	10/25/2023 5:44:24 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/25/2023 5:44:24 PM
Surr: DNOP	103	69-147		%Rec	1	10/25/2023 5:44:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/25/2023 1:13:36 AM
Surr: BFB	93.4	15-244		%Rec	1	10/25/2023 1:13:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 1:13:36 AM
Toluene	ND	0.048		mg/Kg	1	10/25/2023 1:13:36 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/25/2023 1:13:36 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/25/2023 1:13:36 AM
Surr: 4-Bromofluorobenzene	98.8	39.1-146		%Rec	1	10/25/2023 1:13:36 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	20000	1500		mg/Kg	500	10/27/2023 4:12:24 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-03 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/17/2023 1:25:00 PM
Lab ID: 2310A70-006 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/25/2023 5:55:10 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/25/2023 5:55:10 PM
Surr: DNOP	102	69-147		%Rec	1	10/25/2023 5:55:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2023 2:24:04 AM
Surr: BFB	93.8	15-244		%Rec	1	10/25/2023 2:24:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	10/25/2023 2:24:04 AM
Toluene	ND	0.047		mg/Kg	1	10/25/2023 2:24:04 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2023 2:24:04 AM
Xylenes, Total	ND	0.094		mg/Kg	1	10/25/2023 2:24:04 AM
Surr: 4-Bromofluorobenzene	100	39.1-146		%Rec	1	10/25/2023 2:24:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	2200	60		mg/Kg	20	10/26/2023 9:54:42 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-03 3ft
Project: Boyd Y Water Transfer
Collection Date: 10/19/2023 12:00:00 PM
Lab ID: 2310A70-007 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/25/2023 6:05:56 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/25/2023 6:05:56 PM
Surr: DNOP	92.2	69-147		%Rec	1	10/25/2023 6:05:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/25/2023 2:47:40 AM
Surr: BFB	93.1	15-244		%Rec	1	10/25/2023 2:47:40 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 2:47:40 AM
Toluene	ND	0.049		mg/Kg	1	10/25/2023 2:47:40 AM
Ethylbenzene	ND	0.049		mg/Kg	1	10/25/2023 2:47:40 AM
Xylenes, Total	ND	0.097		mg/Kg	1	10/25/2023 2:47:40 AM
Surr: 4-Bromofluorobenzene	98.4	39.1-146		%Rec	1	10/25/2023 2:47:40 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/26/2023 10:07:06 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-04 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/19/2023 12:05:00 PM
Lab ID: 2310A70-008 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/25/2023 6:16:42 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/25/2023 6:16:42 PM
Surr: DNOP	105	69-147		%Rec	1	10/25/2023 6:16:42 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/25/2023 3:11:09 AM
Surr: BFB	93.3	15-244		%Rec	1	10/25/2023 3:11:09 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 3:11:09 AM
Toluene	ND	0.048		mg/Kg	1	10/25/2023 3:11:09 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/25/2023 3:11:09 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/25/2023 3:11:09 AM
Surr: 4-Bromofluorobenzene	99.9	39.1-146		%Rec	1	10/25/2023 3:11:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/26/2023 10:19:30 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-04 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/19/2023 12:10:00 PM
Lab ID: 2310A70-009 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/25/2023 6:27:28 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/25/2023 6:27:28 PM
Surr: DNOP	113	69-147		%Rec	1	10/25/2023 6:27:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2023 3:34:29 AM
Surr: BFB	95.2	15-244		%Rec	1	10/25/2023 3:34:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	10/25/2023 3:34:29 AM
Toluene	ND	0.047		mg/Kg	1	10/25/2023 3:34:29 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2023 3:34:29 AM
Xylenes, Total	ND	0.093		mg/Kg	1	10/25/2023 3:34:29 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	10/25/2023 3:34:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/26/2023 10:31:55 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-05 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/19/2023 12:15:00 PM
Lab ID: 2310A70-010 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/25/2023 6:38:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/25/2023 6:38:13 PM
Surr: DNOP	102	69-147		%Rec	1	10/25/2023 6:38:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/25/2023 3:58:05 AM
Surr: BFB	95.3	15-244		%Rec	1	10/25/2023 3:58:05 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 3:58:05 AM
Toluene	ND	0.048		mg/Kg	1	10/25/2023 3:58:05 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/25/2023 3:58:05 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/25/2023 3:58:05 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	10/25/2023 3:58:05 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/26/2023 10:44:20 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-05 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/19/2023 12:20:00 PM
Lab ID: 2310A70-011 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/25/2023 6:48:58 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/25/2023 6:48:58 PM
Surr: DNOP	77.4	69-147		%Rec	1	10/25/2023 6:48:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2023 4:21:40 AM
Surr: BFB	94.2	15-244		%Rec	1	10/25/2023 4:21:40 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	10/25/2023 4:21:40 AM
Toluene	ND	0.047		mg/Kg	1	10/25/2023 4:21:40 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2023 4:21:40 AM
Xylenes, Total	ND	0.094		mg/Kg	1	10/25/2023 4:21:40 AM
Surr: 4-Bromofluorobenzene	99.8	39.1-146		%Rec	1	10/25/2023 4:21:40 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	150	60		mg/Kg	20	10/26/2023 10:56:45 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-06 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/19/2023 12:25:00 PM
Lab ID: 2310A70-012 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/25/2023 6:59:46 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/25/2023 6:59:46 PM
Surr: DNOP	87.3	69-147		%Rec	1	10/25/2023 6:59:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2023 10:23:25 AM
Surr: BFB	95.2	15-244		%Rec	1	10/25/2023 10:23:25 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 10:23:25 AM
Toluene	ND	0.047		mg/Kg	1	10/25/2023 10:23:25 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2023 10:23:25 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/25/2023 10:23:25 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	10/25/2023 10:23:25 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	8600	600		mg/Kg	200	10/27/2023 4:24:45 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-06 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/19/2023 12:30:00 PM
Lab ID: 2310A70-013 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/25/2023 7:10:35 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/25/2023 7:10:35 PM
Surr: DNOP	92.0	69-147		%Rec	1	10/25/2023 7:10:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/25/2023 10:47:06 AM
Surr: BFB	95.3	15-244		%Rec	1	10/25/2023 10:47:06 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	10/25/2023 10:47:06 AM
Toluene	ND	0.049		mg/Kg	1	10/25/2023 10:47:06 AM
Ethylbenzene	ND	0.049		mg/Kg	1	10/25/2023 10:47:06 AM
Xylenes, Total	ND	0.099		mg/Kg	1	10/25/2023 10:47:06 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	10/25/2023 10:47:06 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	93	60		mg/Kg	20	10/26/2023 11:46:22 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-07 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/19/2023 12:35:00 PM
Lab ID: 2310A70-014 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/25/2023 7:21:22 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/25/2023 7:21:22 PM
Surr: DNOP	120	69-147		%Rec	1	10/25/2023 7:21:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2023 11:10:44 AM
Surr: BFB	95.5	15-244		%Rec	1	10/25/2023 11:10:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	10/25/2023 11:10:44 AM
Toluene	ND	0.047		mg/Kg	1	10/25/2023 11:10:44 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2023 11:10:44 AM
Xylenes, Total	ND	0.094		mg/Kg	1	10/25/2023 11:10:44 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	10/25/2023 11:10:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/26/2023 11:58:47 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310A70**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-07 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/19/2023 12:40:00 PM
Lab ID: 2310A70-015 **Matrix:** SOIL **Received Date:** 10/21/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/25/2023 7:32:08 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/25/2023 7:32:08 PM
Surr: DNOP	102	69-147		%Rec	1	10/25/2023 7:32:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/25/2023 11:34:17 AM
Surr: BFB	98.6	15-244		%Rec	1	10/25/2023 11:34:17 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	10/25/2023 11:34:17 AM
Toluene	ND	0.050		mg/Kg	1	10/25/2023 11:34:17 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/25/2023 11:34:17 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/25/2023 11:34:17 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	10/25/2023 11:34:17 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/27/2023 12:11:12 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 Quanitative 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#: **2310A70**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **MB-78391**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **78391**	RunNo: **100758**								
Prep Date: **10/26/2023**	Analysis Date: **10/26/2023**	SeqNo: **3696871**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-78391**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **78391**	RunNo: **100758**								
Prep Date: **10/26/2023**	Analysis Date: **10/26/2023**	SeqNo: **3696872**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.1	90	110			

Sample ID: **MB-78395**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **78395**	RunNo: **100758**								
Prep Date: **10/26/2023**	Analysis Date: **10/26/2023**	SeqNo: **3696895**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-78395**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **78395**	RunNo: **100758**								
Prep Date: **10/26/2023**	Analysis Date: **10/26/2023**	SeqNo: **3696896**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.2	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative 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#: **2310A70**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **LCS-78319**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78319**	RunNo: **100704**
Prep Date: **10/23/2023**	Analysis Date: **10/24/2023**	SeqNo: **3693071** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	105	61.9	130			
Surr: DNOP	5.4		5.000		107	69	147			

Sample ID: **MB-78319**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78319**	RunNo: **100704**
Prep Date: **10/23/2023**	Analysis Date: **10/24/2023**	SeqNo: **3693073** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		133	69	147			

Sample ID: **2310A70-004AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-02 2ft**	Batch ID: **78336**	RunNo: **100748**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3695308** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.1	54.2	135			
Surr: DNOP	5.2		5.000		104	69	147			

Sample ID: **2310A70-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-02 2ft**	Batch ID: **78336**	RunNo: **100748**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3695309** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	9.5	47.26	0	113	54.2	135	16.7	29.2	
Surr: DNOP	6.1		4.726		129	69	147	0	0	

Sample ID: **LCS-78336**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78336**	RunNo: **100748**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3695349** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	110	61.9	130			
Surr: DNOP	6.1		5.000		122	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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#: **2310A70**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **MB-78336**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78336**	RunNo: **100748**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3695351** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		107	69	147			

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 Quanitative 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#: **2310A70**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **lcs-78310** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **78310** RunNo: **100707**
Prep Date: **10/23/2023** Analysis Date: **10/24/2023** SeqNo: **3693006** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.6	70	130			
Surr: BFB	2000		1000		199	15	244			

Sample ID: **lcs-78320** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **78320** RunNo: **100707**
Prep Date: **10/23/2023** Analysis Date: **10/24/2023** SeqNo: **3693007** 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	2000		1000		199	15	244			

Sample ID: **mb-78310** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **78310** RunNo: **100707**
Prep Date: **10/23/2023** Analysis Date: **10/24/2023** SeqNo: **3693008** 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	950		1000		95.1	15	244			

Sample ID: **mb-78320** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **78320** RunNo: **100707**
Prep Date: **10/23/2023** Analysis Date: **10/24/2023** SeqNo: **3693009** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		96.1	15	244			

Sample ID: **2310a70-004ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-02 2ft** Batch ID: **78320** RunNo: **100707**
Prep Date: **10/23/2023** Analysis Date: **10/25/2023** SeqNo: **3693103** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	23.81	0	103	70	130			
Surr: BFB	2000		952.4		211	15	244			

Sample ID: **2310a70-004amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-02 2ft** Batch ID: **78320** RunNo: **100707**
Prep Date: **10/23/2023** Analysis Date: **10/25/2023** SeqNo: **3693104** 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 Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310A70**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2310a70-004amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-02 2ft**	Batch ID: **78320**	RunNo: **100707**
Prep Date: **10/23/2023**	Analysis Date: **10/25/2023**	SeqNo: **3693104** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	23.85	0	103	70	130	0.0810	20	
Surr: BFB	2000		954.2		214	15	244	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310A70**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **LCS-78310**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78310**	RunNo: **100707**
Prep Date: **10/23/2023**	Analysis Date: **10/24/2023**	SeqNo: **3693018** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	70	130			
Toluene	1.0	0.050	1.000	0	100	70	130			
Ethylbenzene	1.0	0.050	1.000	0	100	70	130			
Xylenes, Total	3.0	0.10	3.000	0	101	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	39.1	146			

Sample ID: **LCS-78320**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78320**	RunNo: **100707**
Prep Date: **10/23/2023**	Analysis Date: **10/24/2023**	SeqNo: **3693019** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Ethylbenzene	1.0	0.050	1.000	0	101	70	130			
Xylenes, Total	3.0	0.10	3.000	0	101	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	39.1	146			

Sample ID: **mb-78310**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78310**	RunNo: **100707**
Prep Date: **10/23/2023**	Analysis Date: **10/24/2023**	SeqNo: **3693020** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	39.1	146			

Sample ID: **mb-78320**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78320**	RunNo: **100707**
Prep Date: **10/23/2023**	Analysis Date: **10/24/2023**	SeqNo: **3693021** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2310A70**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2310a70-005ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-03 0ft**	Batch ID: **78320**	RunNo: **100707**
Prep Date: **10/23/2023**	Analysis Date: **10/25/2023**	SeqNo: **3693156** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9497	0	111	70	130			
Toluene	1.1	0.047	0.9497	0	113	70	130			
Ethylbenzene	1.1	0.047	0.9497	0	115	70	130			
Xylenes, Total	3.3	0.095	2.849	0	115	70	130			
Surr: 4-Bromofluorobenzene	0.99		0.9497		104	39.1	146			

Sample ID: **2310a70-005amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-03 0ft**	Batch ID: **78320**	RunNo: **100707**
Prep Date: **10/23/2023**	Analysis Date: **10/25/2023**	SeqNo: **3693158** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9488	0	114	70	130	2.92	20	
Toluene	1.1	0.047	0.9488	0	115	70	130	1.58	20	
Ethylbenzene	1.1	0.047	0.9488	0	118	70	130	2.29	20	
Xylenes, Total	3.3	0.095	2.846	0	117	70	130	0.911	20	
Surr: 4-Bromofluorobenzene	0.99		0.9488		104	39.1	146	0	0	

Qualifiers:

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

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: 2310A70

RcptNo: 1

Received By: **Tracy Casarrubias** 10/21/2023 8:00:00 AM

Completed By: **Tracy Casarrubias** 10/21/2023 9:06:26 AM

Reviewed By: TM 10/23/23

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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: TMC 10/21/23

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: Mailing address,phone number and Email/Fax are missing on COC- TMC 10/21/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Silverback (Vertex Office)

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☒ Rush 5 Day

Project Name: Boyd Y Water Transfer

Project #: 23E-05378

Project Manager: Chance Dixon

Sampler: Fernando Rodriguez

On Ice: ☒ Yes ☐ No 4009

# of Coolers: 1

Cooler Temp(including CF): 2.4 -0 = 2.4 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2310A70	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/17/23	1:00	Soil	BH23-01 0ft	1, 4oz jar	Ice	001	X	X					X			
10/17/23	1:05	Soil	BH23-01 2ft	1, 4oz jar	Ice	002	X	X					X			
10/17/23	1:10	Soil	BH23-02 0ft	1, 4oz jar	Ice	003	X	X					X			
10/17/23	1:15	Soil	BH23-02 2ft	1, 4oz jar	Ice	004	X	X					X			
10/17/23	1:20	Soil	BH23-03 0ft	1, 4oz jar	Ice	005	X	X					X			
10/17/23	1:25	Soil	BH23-03 2ft	1, 4oz jar	Ice	006	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/19	17:00				10/20/23	930
10/20/23	1900			Courier	10/21/23	8:00

Remarks:
cc: Chance Dixon & Fernando Rodriguez
Direct bill to Silverback

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

Chain-of-Custody Record

Client: Silverback (Vertex)

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

~~Standard~~ X Rush 5 Day

Project Name: Boyd Y Water Transfer

Project #: 23E-05378

Project Manager: Chance Dixon

Sampler: Fernando Rodriguez

On Ice: ~~Yes~~ ☐ No 4oz

# of Coolers: 1

Cooler Temp(including CF): 2.4-0=2.4 ~

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2310A70	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/19/23	12:00	Soil	BH23-03 3ft	1, 4oz jar	Ice	007	X	X					X			
10/19/23	12:05	Soil	BH23-04 0ft	1, 4oz jar	Ice	008	X	X					X			
10/19/23	12:10	Soil	BH23-04 2ft	1, 4oz jar	Ice	009	X	X					X			
10/19/23	12:15	Soil	BH23-05 0ft	1, 4oz jar	Ice	010	X	X					X			
10/19/23	12:20	Soil	BH23-05 2ft	1, 4oz jar	Ice	011	X	X					X			
10/19/23	12:25	Soil	BH23-06 0ft	1, 4oz jar	Ice	012	X	X					X			
10/19/23	12:30	Soil	BH23-06 2ft	1, 4oz jar	Ice	013	X	X					X			
10/19/23	12:35	Soil	BH23-07 0ft	1, 4oz jar	Ice	014	X	X					X			
10/19/23	12:40	Soil	BH23-07 2ft	1, 4oz jar	Ice	015	X	X					X			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/19/23	17:00				10/20/23	930
10/20/23	1910			Courier	10/21/23	9:00

Remarks: cc: Chance Dixon & Fernando Rodriguez

Direct bill to Silverback

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.

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 03, 2023

Chance Dixon

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

RE: Boyd Y Water Transfer OrderNo.: 2310B10

Dear Chance Dixon:

Eurofins Environment Testing South Central, LLC received 16 sample(s) on 10/24/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-08 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:00:00 AM
Lab ID: 2310B10-001 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/25/2023 7:33:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/25/2023 7:33:17 PM
Surr: DNOP	105	69-147		%Rec	1	10/25/2023 7:33:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2023 8:08:00 PM
Surr: BFB	102	15-244		%Rec	1	10/25/2023 8:08:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 8:08:00 PM
Toluene	ND	0.047		mg/Kg	1	10/25/2023 8:08:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2023 8:08:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/25/2023 8:08:00 PM
Surr: 4-Bromofluorobenzene	88.6	39.1-146		%Rec	1	10/25/2023 8:08:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 2:46:28 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-08 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:05:00 AM
Lab ID: 2310B10-002 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	10/25/2023 7:57:09 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/25/2023 7:57:09 PM
Surr: DNOP	104	69-147		%Rec	1	10/25/2023 7:57:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/25/2023 9:13:00 PM
Surr: BFB	100	15-244		%Rec	1	10/25/2023 9:13:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 9:13:00 PM
Toluene	ND	0.049		mg/Kg	1	10/25/2023 9:13:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/25/2023 9:13:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/25/2023 9:13:00 PM
Surr: 4-Bromofluorobenzene	88.5	39.1-146		%Rec	1	10/25/2023 9:13:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 2:58:52 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-09 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:10:00 AM
Lab ID: 2310B10-003 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/25/2023 8:21:01 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/25/2023 8:21:01 PM
Surr: DNOP	103	69-147		%Rec	1	10/25/2023 8:21:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/25/2023 10:18:00 PM
Surr: BFB	99.5	15-244		%Rec	1	10/25/2023 10:18:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 10:18:00 PM
Toluene	ND	0.048		mg/Kg	1	10/25/2023 10:18:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/25/2023 10:18:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/25/2023 10:18:00 PM
Surr: 4-Bromofluorobenzene	87.9	39.1-146		%Rec	1	10/25/2023 10:18:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 3:11:17 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-09 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:15:00 AM
Lab ID: 2310B10-004 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/25/2023 9:08:44 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/25/2023 9:08:44 PM
Surr: DNOP	105	69-147		%Rec	1	10/25/2023 9:08:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2023 10:40:00 PM
Surr: BFB	101	15-244		%Rec	1	10/25/2023 10:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	10/25/2023 10:40:00 PM
Toluene	ND	0.047		mg/Kg	1	10/25/2023 10:40:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2023 10:40:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	10/25/2023 10:40:00 PM
Surr: 4-Bromofluorobenzene	89.2	39.1-146		%Rec	1	10/25/2023 10:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	130	60		mg/Kg	20	10/30/2023 3:23:42 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-10 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:20:00 AM
Lab ID: 2310B10-005 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/25/2023 9:32:38 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/25/2023 9:32:38 PM
Surr: DNOP	104	69-147		%Rec	1	10/25/2023 9:32:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/25/2023 11:02:00 PM
Surr: BFB	104	15-244		%Rec	1	10/25/2023 11:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 11:02:00 PM
Toluene	ND	0.049		mg/Kg	1	10/25/2023 11:02:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/25/2023 11:02:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/25/2023 11:02:00 PM
Surr: 4-Bromofluorobenzene	87.5	39.1-146		%Rec	1	10/25/2023 11:02:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	4900	300		mg/Kg	100	10/31/2023 11:33:41 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-10 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:25:00 AM
Lab ID: 2310B10-006 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/25/2023 9:56:27 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/25/2023 9:56:27 PM
Surr: DNOP	105	69-147		%Rec	1	10/25/2023 9:56:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/25/2023 11:23:00 PM
Surr: BFB	99.2	15-244		%Rec	1	10/25/2023 11:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	10/25/2023 11:23:00 PM
Toluene	ND	0.048		mg/Kg	1	10/25/2023 11:23:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/25/2023 11:23:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/25/2023 11:23:00 PM
Surr: 4-Bromofluorobenzene	87.2	39.1-146		%Rec	1	10/25/2023 11:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 3:48:31 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-11 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:30:00 AM
Lab ID: 2310B10-007 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/25/2023 10:20:15 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/25/2023 10:20:15 PM
Surr: DNOP	106	69-147		%Rec	1	10/25/2023 10:20:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/25/2023 11:45:00 PM
Surr: BFB	103	15-244		%Rec	1	10/25/2023 11:45:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	10/25/2023 11:45:00 PM
Toluene	ND	0.047		mg/Kg	1	10/25/2023 11:45:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/25/2023 11:45:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	10/25/2023 11:45:00 PM
Surr: 4-Bromofluorobenzene	88.9	39.1-146		%Rec	1	10/25/2023 11:45:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	2000	60		mg/Kg	20	10/30/2023 4:00:56 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-11 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:35:00 AM
Lab ID: 2310B10-008 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/25/2023 10:44:04 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/25/2023 10:44:04 PM
Surr: DNOP	107	69-147		%Rec	1	10/25/2023 10:44:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/26/2023 12:07:00 AM
Surr: BFB	106	15-244		%Rec	1	10/26/2023 12:07:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	10/26/2023 12:07:00 AM
Toluene	ND	0.046		mg/Kg	1	10/26/2023 12:07:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	10/26/2023 12:07:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	10/26/2023 12:07:00 AM
Surr: 4-Bromofluorobenzene	89.6	39.1-146		%Rec	1	10/26/2023 12:07:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	67	60		mg/Kg	20	10/30/2023 4:13:20 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-12 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:40:00 AM
Lab ID: 2310B10-009 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/25/2023 11:07:53 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/25/2023 11:07:53 PM
Surr: DNOP	110	69-147		%Rec	1	10/25/2023 11:07:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/26/2023 12:29:00 AM
Surr: BFB	107	15-244		%Rec	1	10/26/2023 12:29:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	10/26/2023 12:29:00 AM
Toluene	ND	0.050		mg/Kg	1	10/26/2023 12:29:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/26/2023 12:29:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	10/26/2023 12:29:00 AM
Surr: 4-Bromofluorobenzene	90.0	39.1-146		%Rec	1	10/26/2023 12:29:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 4:25:44 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-12 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:45:00 AM
Lab ID: 2310B10-010 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/25/2023 11:31:37 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/25/2023 11:31:37 PM
Surr: DNOP	106	69-147		%Rec	1	10/25/2023 11:31:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/26/2023 12:50:00 AM
Surr: BFB	105	15-244		%Rec	1	10/26/2023 12:50:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	10/26/2023 12:50:00 AM
Toluene	ND	0.050		mg/Kg	1	10/26/2023 12:50:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/26/2023 12:50:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	10/26/2023 12:50:00 AM
Surr: 4-Bromofluorobenzene	91.3	39.1-146		%Rec	1	10/26/2023 12:50:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 4:38:09 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-13 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:50:00 AM
Lab ID: 2310B10-011 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/25/2023 11:55:19 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/25/2023 11:55:19 PM
Surr: DNOP	103	69-147		%Rec	1	10/25/2023 11:55:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/26/2023 1:34:00 AM
Surr: BFB	106	15-244		%Rec	1	10/26/2023 1:34:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	10/26/2023 9:00:00 PM
Toluene	ND	0.050		mg/Kg	1	10/26/2023 9:00:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/26/2023 9:00:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/26/2023 9:00:00 PM
Surr: 4-Bromofluorobenzene	89.2	39.1-146		%Rec	1	10/26/2023 9:00:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	5600	300		mg/Kg	100	10/31/2023 11:46:06 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-13 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 10:55:00 AM
Lab ID: 2310B10-012 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/26/2023 12:19:02 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2023 12:19:02 AM
Surr: DNOP	106	69-147		%Rec	1	10/26/2023 12:19:02 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/26/2023 1:56:00 AM
Surr: BFB	105	15-244		%Rec	1	10/26/2023 1:56:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	10/26/2023 9:21:00 PM
Toluene	ND	0.048		mg/Kg	1	10/26/2023 9:21:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/26/2023 9:21:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/26/2023 9:21:00 PM
Surr: 4-Bromofluorobenzene	90.0	39.1-146		%Rec	1	10/26/2023 9:21:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 5:27:47 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-14 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 11:00:00 AM
Lab ID: 2310B10-013 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/26/2023 12:42:43 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/26/2023 12:42:43 AM
Surr: DNOP	107	69-147		%Rec	1	10/26/2023 12:42:43 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/26/2023 2:17:00 AM
Surr: BFB	101	15-244		%Rec	1	10/26/2023 2:17:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	10/26/2023 9:43:00 PM
Toluene	ND	0.050		mg/Kg	1	10/26/2023 9:43:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/26/2023 9:43:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/26/2023 9:43:00 PM
Surr: 4-Bromofluorobenzene	89.2	39.1-146		%Rec	1	10/26/2023 9:43:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	7100	300		mg/Kg	100	10/31/2023 11:58:31 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-14 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 11:05:00 AM
Lab ID: 2310B10-014 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/26/2023 1:06:28 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2023 1:06:28 AM
Surr: DNOP	102	69-147		%Rec	1	10/26/2023 1:06:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/26/2023 2:39:00 AM
Surr: BFB	104	15-244		%Rec	1	10/26/2023 2:39:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	10/26/2023 10:05:00 PM
Toluene	ND	0.049		mg/Kg	1	10/26/2023 10:05:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/26/2023 10:05:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/26/2023 10:05:00 PM
Surr: 4-Bromofluorobenzene	87.0	39.1-146		%Rec	1	10/26/2023 10:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 5:52:37 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-15 0ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 11:10:00 AM
Lab ID: 2310B10-015 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	10/26/2023 1:30:12 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/26/2023 1:30:12 AM
Surr: DNOP	104	69-147		%Rec	1	10/26/2023 1:30:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/26/2023 3:01:00 AM
Surr: BFB	103	15-244		%Rec	1	10/26/2023 3:01:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	10/26/2023 10:27:00 PM
Toluene	ND	0.048		mg/Kg	1	10/26/2023 10:27:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/26/2023 10:27:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/26/2023 10:27:00 PM
Surr: 4-Bromofluorobenzene	88.0	39.1-146		%Rec	1	10/26/2023 10:27:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 6:05:01 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2310B10**
Date Reported: **11/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-15 2ft
Project: Boyd Y Water Transfer
Collection Date: 10/20/2023 11:15:00 AM
Lab ID: 2310B10-016 **Matrix:** SOIL **Received Date:** 10/24/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/26/2023 1:53:51 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/26/2023 1:53:51 AM
Surr: DNOP	104	69-147		%Rec	1	10/26/2023 1:53:51 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/26/2023 3:23:00 AM
Surr: BFB	99.6	15-244		%Rec	1	10/26/2023 3:23:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	10/26/2023 10:48:00 PM
Toluene	ND	0.047		mg/Kg	1	10/26/2023 10:48:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/26/2023 10:48:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	10/26/2023 10:48:00 PM
Surr: 4-Bromofluorobenzene	89.7	39.1-146		%Rec	1	10/26/2023 10:48:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	10/30/2023 6:17:26 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative 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#: **2310B10**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **MB-78435**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **78435**	RunNo: **100821**
Prep Date: **10/30/2023**	Analysis Date: **10/30/2023**	SeqNo: **3699446** Units: **mg/Kg**

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

Sample ID: **LCS-78435**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **78435**	RunNo: **100821**
Prep Date: **10/30/2023**	Analysis Date: **10/30/2023**	SeqNo: **3699447** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2310B10**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **MB-78364**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78364**	RunNo: **100744**
Prep Date: **10/25/2023**	Analysis Date: **10/25/2023**	SeqNo: **3695174** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		99.2	69	147			

Sample ID: **LCS-78364**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78364**	RunNo: **100744**
Prep Date: **10/25/2023**	Analysis Date: **10/25/2023**	SeqNo: **3695175** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	61.9	130			
Surr: DNOP	5.1		5.000		103	69	147			

Sample ID: **2310B10-016AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-15 2ft**	Batch ID: **78364**	RunNo: **100744**
Prep Date: **10/25/2023**	Analysis Date: **10/26/2023**	SeqNo: **3695197** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.3	46.38	0	107	54.2	135			
Surr: DNOP	5.0		4.638		107	69	147			

Sample ID: **2310B10-016AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-15 2ft**	Batch ID: **78364**	RunNo: **100744**
Prep Date: **10/25/2023**	Analysis Date: **10/26/2023**	SeqNo: **3695198** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.8	49.07	0	106	54.2	135	4.61	29.2	
Surr: DNOP	5.2		4.907		106	69	147	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310B10**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **lcs-78352**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **78352**	RunNo: **100731**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3694380** 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	95.5	70	130			
Surr: BFB	2200		1000		219	15	244			

Sample ID: **mb-78352**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **78352**	RunNo: **100731**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3694381** 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	990		1000		99.1	15	244			

Sample ID: **2310B10-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-08 0ft**	Batch ID: **78352**	RunNo: **100731**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3694383** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.7	23.72	0	103	70	130			
Surr: BFB	2200		948.8		233	15	244			

Sample ID: **2310B10-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-08 0ft**	Batch ID: **78352**	RunNo: **100731**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3694384** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.7	23.65	0	111	70	130	6.95	20	
Surr: BFB	2300		946.1		238	15	244	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310B10**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **lcs-78352**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78352**	RunNo: **100731**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3694424** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	87.7	70	130			
Toluene	0.89	0.050	1.000	0	89.2	70	130			
Ethylbenzene	0.90	0.050	1.000	0	89.6	70	130			
Xylenes, Total	2.7	0.10	3.000	0	89.1	70	130			
Surr: 4-Bromofluorobenzene	0.90		1.000		89.5	39.1	146			

Sample ID: **mb-78352**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78352**	RunNo: **100731**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3694425** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.88		1.000		88.5	39.1	146			

Sample ID: **2310B10-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-08 2ft**	Batch ID: **78352**	RunNo: **100731**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3694428** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9756	0	91.6	70	130			
Toluene	0.93	0.049	0.9756	0	95.1	70	130			
Ethylbenzene	0.95	0.049	0.9756	0	97.8	70	130			
Xylenes, Total	2.8	0.098	2.927	0	96.7	70	130			
Surr: 4-Bromofluorobenzene	0.86		0.9756		87.9	39.1	146			

Sample ID: **2310B10-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-08 2ft**	Batch ID: **78352**	RunNo: **100731**
Prep Date: **10/24/2023**	Analysis Date: **10/25/2023**	SeqNo: **3694429** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.024	0.9718	0	95.4	70	130	3.75	20	
Toluene	0.94	0.049	0.9718	0	96.9	70	130	1.51	20	
Ethylbenzene	0.97	0.049	0.9718	0	99.6	70	130	1.46	20	
Xylenes, Total	2.9	0.097	2.915	0	99.1	70	130	2.07	20	
Surr: 4-Bromofluorobenzene	0.88		0.9718		90.4	39.1	146	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2310B10**

03-Nov-23

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **lcs-78352**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78352**	RunNo: **100755**
Prep Date: **10/24/2023**	Analysis Date: **10/26/2023**	SeqNo: **3696790** 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	70	130			
Toluene	0.92	0.050	1.000	0	92.1	70	130			
Ethylbenzene	0.93	0.050	1.000	0	93.4	70	130			
Xylenes, Total	2.8	0.10	3.000	0	93.0	70	130			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.2	39.1	146			

Sample ID: **mb-78352**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78352**	RunNo: **100755**
Prep Date: **10/24/2023**	Analysis Date: **10/26/2023**	SeqNo: **3696791** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		91.6	39.1	146			

Qualifiers:

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

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: 2310B10

RcptNo: 1

Received By: Tracy Casarrubias 10/24/2023 7:50:00 AM

Completed By: Tracy Casarrubias 10/24/2023 8:57:54 AM

Reviewed By: SCM 10/24/23

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? (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: TMC 10/24/23

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: Mailing address, phone number and Email/Fax are missing on COC- TMC 10/24/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.4	Good	Yes	Morty		

Chain-of-Custody Record

Client: Silverback (Vertex)

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name: Boyd Y Water Transfer

Project #: 23E-05378

Project Manager: Chance Dixon

Sampler: Fernando Rodriguez

On Ice: ☒ Yes ☐ No morty

# of Coolers: 1

Cooler Temp(including CF): 5.5 - 0.1 = 5.4 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2310B10	Analysis Request: (BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl, F, Br, NO_3, NO_2, PO_4, SO_4)	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/20/23	10:00	Soil	BH23-08 0ft	1, 4oz jar	Ice	001	X	X					X			
10/20/23	10:05	Soil	BH23-08 2ft	1, 4oz jar	Ice	002	X	X					X			
10/20/23	10:10	Soil	BH23-09 0ft	1, 4oz jar	Ice	003	X	X					X			
10/20/23	10:15	Soil	BH23-09 2ft	1, 4oz jar	Ice	004	X	X					X			
10/20/23	10:20	Soil	BH23-10 0ft	1, 4oz jar	Ice	005	X	X					X			
10/20/23	10:25	Soil	BH23-10 2ft	1, 4oz jar	Ice	006	X	X					X			
10/20/23	10:30	Soil	BH23-11 0ft	1, 4oz jar	Ice	007	X	X					X			
10/20/23	10:35	Soil	BH23-11 2ft	1, 4oz jar	Ice	008	X	X					X			
10/20/23	10:40	Soil	BH23-12 0ft	1, 4oz jar	Ice	009	X	X					X			
10/20/23	10:45	Soil	BH23-12 2ft	1, 4oz jar	Ice	010	X	X					X			
10/20/23	10:50	Soil	BH23-13 0ft	1, 4oz jar	Ice	011	X	X					X			
10/20/23	10:55	Soil	BH23-13 2ft	1, 4oz jar	Ice	012	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
10/20	17:00				10/23/23	1100
10/23/23	1900			Courier	10/24/23	7:58

Remarks: cc: Chance Dixon & Fernando Rodriguez

Direct Bill to Silverback

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

Chain-of-Custody Record

Client: Silverback (Vertex)

Mailing Address: On File

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Boyd Y Water Transfer

Project #: 23E-05378

Project Manager: Chance Dixon

Sampler: Fernando Rodriguez

On Ice: ☒ Yes ☐ No morty

# of Coolers: 1

Cooler Temp(including CF): 5.5 - 0.1 = 5.4°c

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2310B10	Analysis Request: (BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl, F, Br, NO_3, NO_2, PO_4, SO_4)	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/20/23	11:00	Soil	BH23-14 0ft	1, 4oz jar	Ice	013	X	X					X			
10/20/23	11:05	Soil	BH23-14 2ft	1, 4oz jar	Ice	014	X	X					X			
10/20/23	11:10	Soil	BH23-15 0ft	1, 4oz jar	Ice	015	X	X					X			
10/20/23	11:15	Soil	BH23-15 2ft	1, 4oz jar	Ice	016	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/20	17:00				10/23/23	1100
10/23/23	1900			courier	10/24/23	7:50

Remarks: cc: Chance Dixon & Fernando Rodriguez

Direct Bill to Silvertack

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.

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 04, 2024

Chance Dixon

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

RE: Boyd Y Water Transfer OrderNo.: 2312834

Dear Chance Dixon:

Eurofins Environment Testing South Central, LLC received 48 sample(s) on 12/14/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS23-01 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 8:00:00 AM
Lab ID: 2312834-001 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/19/2023 2:08:58 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 2:08:58 PM
Surr: DNOP	89.4	69-147		%Rec	1	12/19/2023 2:08:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/19/2023 9:29:40 PM
Surr: BFB	95.1	15-244		%Rec	1	12/19/2023 9:29:40 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/19/2023 9:29:40 PM
Toluene	ND	0.049		mg/Kg	1	12/19/2023 9:29:40 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/19/2023 9:29:40 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/19/2023 9:29:40 PM
Surr: 4-Bromofluorobenzene	95.5	39.1-146		%Rec	1	12/19/2023 9:29:40 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	260	60		mg/Kg	20	12/19/2023 11:29:27 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS23-02 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 8:05:00 AM
Lab ID: 2312834-002 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	12/19/2023 2:19:37 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/19/2023 2:19:37 PM
Surr: DNOP	92.1	69-147		%Rec	1	12/19/2023 2:19:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/19/2023 10:17:25 PM
Surr: BFB	97.6	15-244		%Rec	1	12/19/2023 10:17:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/19/2023 10:17:25 PM
Toluene	ND	0.048		mg/Kg	1	12/19/2023 10:17:25 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/19/2023 10:17:25 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/19/2023 10:17:25 PM
Surr: 4-Bromofluorobenzene	98.1	39.1-146		%Rec	1	12/19/2023 10:17:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	500	60		mg/Kg	20	12/19/2023 11:44:37 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS23-03 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 8:10:00 AM
Lab ID: 2312834-003 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	12/19/2023 2:30:18 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	12/19/2023 2:30:18 PM
Surr: DNOP	92.2	69-147		%Rec	1	12/19/2023 2:30:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/19/2023 10:41:11 PM
Surr: BFB	99.3	15-244		%Rec	1	12/19/2023 10:41:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/19/2023 10:41:11 PM
Toluene	ND	0.048		mg/Kg	1	12/19/2023 10:41:11 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/19/2023 10:41:11 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/19/2023 10:41:11 PM
Surr: 4-Bromofluorobenzene	98.7	39.1-146		%Rec	1	12/19/2023 10:41:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	200	60		mg/Kg	20	12/19/2023 11:59:47 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	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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS23-04 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 8:15:00 AM
Lab ID: 2312834-004 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/19/2023 2:41:02 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2023 2:41:02 PM
Surr: DNOP	91.4	69-147		%Rec	1	12/19/2023 2:41:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/19/2023 11:05:34 PM
Surr: BFB	96.9	15-244		%Rec	1	12/19/2023 11:05:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/19/2023 11:05:34 PM
Toluene	ND	0.050		mg/Kg	1	12/19/2023 11:05:34 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/19/2023 11:05:34 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/19/2023 11:05:34 PM
Surr: 4-Bromofluorobenzene	95.9	39.1-146		%Rec	1	12/19/2023 11:05:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	260	60		mg/Kg	20	12/20/2023 12:14:56 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS23-05 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 8:20:00 AM
Lab ID: 2312834-005 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	12/19/2023 2:51:46 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	12/19/2023 2:51:46 PM
Surr: DNOP	105	69-147		%Rec	1	12/19/2023 2:51:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/19/2023 11:29:14 PM
Surr: BFB	97.2	15-244		%Rec	1	12/19/2023 11:29:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/19/2023 11:29:14 PM
Toluene	ND	0.048		mg/Kg	1	12/19/2023 11:29:14 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/19/2023 11:29:14 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/19/2023 11:29:14 PM
Surr: 4-Bromofluorobenzene	96.9	39.1-146		%Rec	1	12/19/2023 11:29:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	150	60		mg/Kg	20	12/20/2023 12:30:05 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS23-06 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 8:25:00 AM
Lab ID: 2312834-006 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/19/2023 3:02:32 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 3:02:32 PM
Surr: DNOP	87.1	69-147		%Rec	1	12/19/2023 3:02:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/19/2023 11:52:57 PM
Surr: BFB	96.5	15-244		%Rec	1	12/19/2023 11:52:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/19/2023 11:52:57 PM
Toluene	ND	0.048		mg/Kg	1	12/19/2023 11:52:57 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/19/2023 11:52:57 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/19/2023 11:52:57 PM
Surr: 4-Bromofluorobenzene	95.7	39.1-146		%Rec	1	12/19/2023 11:52:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/20/2023 12:45:15 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS23-07 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 8:30:00 AM
Lab ID: 2312834-007 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/19/2023 3:13:25 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2023 3:13:25 PM
Surr: DNOP	85.8	69-147		%Rec	1	12/19/2023 3:13:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/20/2023 12:16:40 AM
Surr: BFB	98.0	15-244		%Rec	1	12/20/2023 12:16:40 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/20/2023 12:16:40 AM
Toluene	ND	0.048		mg/Kg	1	12/20/2023 12:16:40 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/20/2023 12:16:40 AM
Xylenes, Total	ND	0.095		mg/Kg	1	12/20/2023 12:16:40 AM
Surr: 4-Bromofluorobenzene	97.6	39.1-146		%Rec	1	12/20/2023 12:16:40 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/20/2023 1:00:25 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS23-08 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 8:35:00 AM
Lab ID: 2312834-008 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	12/19/2023 3:24:17 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/19/2023 3:24:17 PM
Surr: DNOP	91.6	69-147		%Rec	1	12/19/2023 3:24:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2023 1:04:13 AM
Surr: BFB	96.8	15-244		%Rec	1	12/20/2023 1:04:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/20/2023 1:04:13 AM
Toluene	ND	0.049		mg/Kg	1	12/20/2023 1:04:13 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2023 1:04:13 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/20/2023 1:04:13 AM
Surr: 4-Bromofluorobenzene	96.2	39.1-146		%Rec	1	12/20/2023 1:04:13 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/20/2023 1:15:34 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS23-09 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 8:40:00 AM
Lab ID: 2312834-009 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/19/2023 3:35:07 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2023 3:35:07 PM
Surr: DNOP	84.6	69-147		%Rec	1	12/19/2023 3:35:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/20/2023 1:28:02 AM
Surr: BFB	95.6	15-244		%Rec	1	12/20/2023 1:28:02 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/20/2023 1:28:02 AM
Toluene	ND	0.048		mg/Kg	1	12/20/2023 1:28:02 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/20/2023 1:28:02 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/20/2023 1:28:02 AM
Surr: 4-Bromofluorobenzene	95.5	39.1-146		%Rec	1	12/20/2023 1:28:02 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/20/2023 1:30:44 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS23-10 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 8:45:00 AM
Lab ID: 2312834-010 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/19/2023 6:48:00 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 6:48:00 PM
Surr: DNOP	99.9	69-147		%Rec	1	12/19/2023 6:48:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2023 9:56:17 PM
Surr: BFB	99.7	15-244		%Rec	1	12/20/2023 9:56:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/20/2023 9:56:17 PM
Toluene	ND	0.049		mg/Kg	1	12/20/2023 9:56:17 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2023 9:56:17 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/20/2023 9:56:17 PM
Surr: 4-Bromofluorobenzene	98.7	39.1-146		%Rec	1	12/20/2023 9:56:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/20/2023 2:16:13 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-01 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 8:50:00 AM
Lab ID: 2312834-011 **Matrix:** SOIL
Received Date: 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/19/2023 7:11:38 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 7:11:38 PM
Surr: DNOP	99.6	69-147		%Rec	1	12/19/2023 7:11:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2023 10:44:12 PM
Surr: BFB	95.6	15-244		%Rec	1	12/20/2023 10:44:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/20/2023 10:44:12 PM
Toluene	ND	0.049		mg/Kg	1	12/20/2023 10:44:12 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2023 10:44:12 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/20/2023 10:44:12 PM
Surr: 4-Bromofluorobenzene	94.0	39.1-146		%Rec	1	12/20/2023 10:44:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	62	60		mg/Kg	20	12/20/2023 2:31:22 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-02 2.5ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 8:55:00 AM
Lab ID: 2312834-012 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/19/2023 7:35:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 7:35:13 PM
Surr: DNOP	99.8	69-147		%Rec	1	12/19/2023 7:35:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/20/2023 11:07:58 PM
Surr: BFB	98.5	15-244		%Rec	1	12/20/2023 11:07:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/20/2023 11:07:58 PM
Toluene	ND	0.047		mg/Kg	1	12/20/2023 11:07:58 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/20/2023 11:07:58 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/20/2023 11:07:58 PM
Surr: 4-Bromofluorobenzene	98.4	39.1-146		%Rec	1	12/20/2023 11:07:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	370	60		mg/Kg	20	12/20/2023 2:46:32 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-03 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 9:00:00 AM
Lab ID: 2312834-013 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/19/2023 7:58:46 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 7:58:46 PM
Surr: DNOP	101	69-147		%Rec	1	12/19/2023 7:58:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2023 11:31:35 PM
Surr: BFB	92.5	15-244		%Rec	1	12/20/2023 11:31:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/20/2023 11:31:35 PM
Toluene	ND	0.049		mg/Kg	1	12/20/2023 11:31:35 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2023 11:31:35 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/20/2023 11:31:35 PM
Surr: 4-Bromofluorobenzene	92.8	39.1-146		%Rec	1	12/20/2023 11:31:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	61		mg/Kg	20	12/20/2023 3:01:41 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-04 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 9:05:00 AM
Lab ID: 2312834-014 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/19/2023 8:22:21 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 8:22:21 PM
Surr: DNOP	100	69-147		%Rec	1	12/19/2023 8:22:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/21/2023 12:18:56 AM
Surr: BFB	94.2	15-244		%Rec	1	12/21/2023 12:18:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 12:18:56 AM
Toluene	ND	0.048		mg/Kg	1	12/21/2023 12:18:56 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/21/2023 12:18:56 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/21/2023 12:18:56 AM
Surr: 4-Bromofluorobenzene	94.5	39.1-146		%Rec	1	12/21/2023 12:18:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	110	60		mg/Kg	20	12/20/2023 3:16:50 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-05 2.5ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 9:10:00 AM
Lab ID: 2312834-015 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/19/2023 8:45:52 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 8:45:52 PM
Surr: DNOP	101	69-147		%Rec	1	12/19/2023 8:45:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/21/2023 12:42:38 AM
Surr: BFB	95.9	15-244		%Rec	1	12/21/2023 12:42:38 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/21/2023 12:42:38 AM
Toluene	ND	0.046		mg/Kg	1	12/21/2023 12:42:38 AM
Ethylbenzene	ND	0.046		mg/Kg	1	12/21/2023 12:42:38 AM
Xylenes, Total	ND	0.092		mg/Kg	1	12/21/2023 12:42:38 AM
Surr: 4-Bromofluorobenzene	95.2	39.1-146		%Rec	1	12/21/2023 12:42:38 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/20/2023 3:32:00 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-06 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 9:15:00 AM
Lab ID: 2312834-016 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/19/2023 9:09:19 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 9:09:19 PM
Surr: DNOP	100	69-147		%Rec	1	12/19/2023 9:09:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/21/2023 1:06:43 AM
Surr: BFB	95.1	15-244		%Rec	1	12/21/2023 1:06:43 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 1:06:43 AM
Toluene	ND	0.047		mg/Kg	1	12/21/2023 1:06:43 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/21/2023 1:06:43 AM
Xylenes, Total	ND	0.095		mg/Kg	1	12/21/2023 1:06:43 AM
Surr: 4-Bromofluorobenzene	94.8	39.1-146		%Rec	1	12/21/2023 1:06:43 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	150	60		mg/Kg	20	12/20/2023 9:24:35 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-07 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 9:20:00 AM
Lab ID: 2312834-017 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/19/2023 9:32:50 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2023 9:32:50 PM
Surr: DNOP	102	69-147		%Rec	1	12/19/2023 9:32:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 1:30:27 AM
Surr: BFB	95.6	15-244		%Rec	1	12/21/2023 1:30:27 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/21/2023 1:30:27 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 1:30:27 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 1:30:27 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/21/2023 1:30:27 AM
Surr: 4-Bromofluorobenzene	94.7	39.1-146		%Rec	1	12/21/2023 1:30:27 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	130	59		mg/Kg	20	12/20/2023 10:10:03 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-08 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 9:25:00 AM
Lab ID: 2312834-018 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/19/2023 9:56:17 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 9:56:17 PM
Surr: DNOP	98.9	69-147		%Rec	1	12/19/2023 9:56:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/21/2023 1:54:09 AM
Surr: BFB	94.0	15-244		%Rec	1	12/21/2023 1:54:09 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/21/2023 1:54:09 AM
Toluene	ND	0.050		mg/Kg	1	12/21/2023 1:54:09 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/21/2023 1:54:09 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/21/2023 1:54:09 AM
Surr: 4-Bromofluorobenzene	94.7	39.1-146		%Rec	1	12/21/2023 1:54:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	160	60		mg/Kg	20	12/20/2023 10:55:32 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-09 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 9:30:00 AM
Lab ID: 2312834-019 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/19/2023 10:19:44 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 10:19:44 PM
Surr: DNOP	95.9	69-147		%Rec	1	12/19/2023 10:19:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/21/2023 2:17:57 AM
Surr: BFB	96.7	15-244		%Rec	1	12/21/2023 2:17:57 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 2:17:57 AM
Toluene	ND	0.048		mg/Kg	1	12/21/2023 2:17:57 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/21/2023 2:17:57 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/21/2023 2:17:57 AM
Surr: 4-Bromofluorobenzene	97.3	39.1-146		%Rec	1	12/21/2023 2:17:57 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	200	59		mg/Kg	20	12/20/2023 11:10:42 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-10 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 9:35:00 AM
Lab ID: 2312834-020 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/19/2023 11:06:33 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 11:06:33 PM
Surr: DNOP	96.9	69-147		%Rec	1	12/19/2023 11:06:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 2:42:12 AM
Surr: BFB	96.7	15-244		%Rec	1	12/21/2023 2:42:12 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/21/2023 2:42:12 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 2:42:12 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 2:42:12 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/21/2023 2:42:12 AM
Surr: 4-Bromofluorobenzene	96.9	39.1-146		%Rec	1	12/21/2023 2:42:12 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	310	60		mg/Kg	20	12/20/2023 11:56:11 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-11 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 9:40:00 AM
Lab ID: 2312834-021 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	12/19/2023 11:29:57 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/19/2023 11:29:57 PM
Surr: DNOP	96.7	69-147		%Rec	1	12/19/2023 11:29:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 3:05:56 AM
Surr: BFB	95.4	15-244		%Rec	1	12/21/2023 3:05:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/21/2023 3:05:56 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 3:05:56 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 3:05:56 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/21/2023 3:05:56 AM
Surr: 4-Bromofluorobenzene	94.2	39.1-146		%Rec	1	12/21/2023 3:05:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	270	60		mg/Kg	20	12/20/2023 12:11:21 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-12 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 9:45:00 AM
Lab ID: 2312834-022 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/19/2023 11:53:18 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 11:53:18 PM
Surr: DNOP	96.4	69-147		%Rec	1	12/19/2023 11:53:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 3:29:42 AM
Surr: BFB	95.2	15-244		%Rec	1	12/21/2023 3:29:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/21/2023 3:29:42 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 3:29:42 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 3:29:42 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/21/2023 3:29:42 AM
Surr: 4-Bromofluorobenzene	94.8	39.1-146		%Rec	1	12/21/2023 3:29:42 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	160	60		mg/Kg	20	12/20/2023 12:26:30 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-13 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 9:50:00 AM
Lab ID: 2312834-023 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/20/2023 12:16:37 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/20/2023 12:16:37 AM
Surr: DNOP	96.5	69-147		%Rec	1	12/20/2023 12:16:37 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/21/2023 3:53:54 AM
Surr: BFB	94.2	15-244		%Rec	1	12/21/2023 3:53:54 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 3:53:54 AM
Toluene	ND	0.048		mg/Kg	1	12/21/2023 3:53:54 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/21/2023 3:53:54 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/21/2023 3:53:54 AM
Surr: 4-Bromofluorobenzene	94.2	39.1-146		%Rec	1	12/21/2023 3:53:54 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/20/2023 12:41:39 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-14 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 9:55:00 AM
Lab ID: 2312834-024 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/20/2023 12:39:58 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/20/2023 12:39:58 AM
Surr: DNOP	96.7	69-147		%Rec	1	12/20/2023 12:39:58 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/21/2023 4:41:08 AM
Surr: BFB	94.1	15-244		%Rec	1	12/21/2023 4:41:08 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/21/2023 4:41:08 AM
Toluene	ND	0.047		mg/Kg	1	12/21/2023 4:41:08 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/21/2023 4:41:08 AM
Xylenes, Total	ND	0.093		mg/Kg	1	12/21/2023 4:41:08 AM
Surr: 4-Bromofluorobenzene	94.9	39.1-146		%Rec	1	12/21/2023 4:41:08 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	75	60		mg/Kg	20	12/20/2023 12:56:48 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-15 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 10:00:00 AM
Lab ID: 2312834-025 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/20/2023 1:03:17 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/20/2023 1:03:17 AM
Surr: DNOP	97.6	69-147		%Rec	1	12/20/2023 1:03:17 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/21/2023 5:04:54 AM
Surr: BFB	97.2	15-244		%Rec	1	12/21/2023 5:04:54 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/21/2023 5:04:54 AM
Toluene	ND	0.050		mg/Kg	1	12/21/2023 5:04:54 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/21/2023 5:04:54 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/21/2023 5:04:54 AM
Surr: 4-Bromofluorobenzene	97.3	39.1-146		%Rec	1	12/21/2023 5:04:54 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	160	61		mg/Kg	20	12/20/2023 1:11:57 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-16 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 10:05:00 AM
Lab ID: 2312834-026 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/20/2023 1:26:32 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/20/2023 1:26:32 AM
Surr: DNOP	96.7	69-147		%Rec	1	12/20/2023 1:26:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/21/2023 5:28:50 AM
Surr: BFB	96.8	15-244		%Rec	1	12/21/2023 5:28:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/21/2023 5:28:50 AM
Toluene	ND	0.046		mg/Kg	1	12/21/2023 5:28:50 AM
Ethylbenzene	ND	0.046		mg/Kg	1	12/21/2023 5:28:50 AM
Xylenes, Total	ND	0.093		mg/Kg	1	12/21/2023 5:28:50 AM
Surr: 4-Bromofluorobenzene	97.3	39.1-146		%Rec	1	12/21/2023 5:28:50 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	76	60		mg/Kg	20	12/20/2023 1:27:06 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-17 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 10:10:00 AM
Lab ID: 2312834-027 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	12/20/2023 1:49:48 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/20/2023 1:49:48 AM
Surr: DNOP	97.2	69-147		%Rec	1	12/20/2023 1:49:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/21/2023 5:52:56 AM
Surr: BFB	95.6	15-244		%Rec	1	12/21/2023 5:52:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/21/2023 5:52:56 AM
Toluene	ND	0.047		mg/Kg	1	12/21/2023 5:52:56 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/21/2023 5:52:56 AM
Xylenes, Total	ND	0.093		mg/Kg	1	12/21/2023 5:52:56 AM
Surr: 4-Bromofluorobenzene	96.7	39.1-146		%Rec	1	12/21/2023 5:52:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	61		mg/Kg	20	12/20/2023 1:42:16 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-18 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 10:15:00 AM
Lab ID: 2312834-028 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/20/2023 2:13:06 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/20/2023 2:13:06 AM
Surr: DNOP	97.2	69-147		%Rec	1	12/20/2023 2:13:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/21/2023 6:17:02 AM
Surr: BFB	93.6	15-244		%Rec	1	12/21/2023 6:17:02 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/21/2023 6:17:02 AM
Toluene	ND	0.047		mg/Kg	1	12/21/2023 6:17:02 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/21/2023 6:17:02 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/21/2023 6:17:02 AM
Surr: 4-Bromofluorobenzene	94.0	39.1-146		%Rec	1	12/21/2023 6:17:02 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	300	59		mg/Kg	20	12/20/2023 1:57:25 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-19 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 10:20:00 AM
Lab ID: 2312834-029 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/20/2023 2:36:22 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/20/2023 2:36:22 AM
Surr: DNOP	94.0	69-147		%Rec	1	12/20/2023 2:36:22 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/21/2023 6:41:10 AM
Surr: BFB	96.5	15-244		%Rec	1	12/21/2023 6:41:10 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/21/2023 6:41:10 AM
Toluene	ND	0.046		mg/Kg	1	12/21/2023 6:41:10 AM
Ethylbenzene	ND	0.046		mg/Kg	1	12/21/2023 6:41:10 AM
Xylenes, Total	ND	0.092		mg/Kg	1	12/21/2023 6:41:10 AM
Surr: 4-Bromofluorobenzene	97.1	39.1-146		%Rec	1	12/21/2023 6:41:10 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	200	60		mg/Kg	20	12/20/2023 2:12:34 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-20 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 10:25:00 AM
Lab ID: 2312834-030 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/19/2023 4:39:47 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 4:39:47 PM
Surr: DNOP	115	69-147		%Rec	1	12/19/2023 4:39:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/20/2023 10:32:00 PM
Surr: BFB	96.5	15-244		%Rec	1	12/20/2023 10:32:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/20/2023 10:32:00 PM
Toluene	ND	0.048		mg/Kg	1	12/20/2023 10:32:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/20/2023 10:32:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/20/2023 10:32:00 PM
Surr: 4-Bromofluorobenzene	96.9	39.1-146		%Rec	1	12/20/2023 10:32:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	160	60		mg/Kg	20	12/20/2023 2:58:02 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-21 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 10:30:00 AM
Lab ID: 2312834-031 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/19/2023 4:50:34 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 4:50:34 PM
Surr: DNOP	113	69-147		%Rec	1	12/19/2023 4:50:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/20/2023 11:39:00 PM
Surr: BFB	100	15-244		%Rec	1	12/20/2023 11:39:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/20/2023 11:39:00 PM
Toluene	ND	0.047		mg/Kg	1	12/20/2023 11:39:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/20/2023 11:39:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/20/2023 11:39:00 PM
Surr: 4-Bromofluorobenzene	98.0	39.1-146		%Rec	1	12/20/2023 11:39:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	130	60		mg/Kg	20	12/20/2023 3:13:11 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-22 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 10:35:00 AM
Lab ID: 2312834-032 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/19/2023 5:01:19 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 5:01:19 PM
Surr: DNOP	114	69-147		%Rec	1	12/19/2023 5:01:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 12:44:00 AM
Surr: BFB	103	15-244		%Rec	1	12/21/2023 12:44:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 12:44:00 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 12:44:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 12:44:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/21/2023 12:44:00 AM
Surr: 4-Bromofluorobenzene	98.3	39.1-146		%Rec	1	12/21/2023 12:44:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/20/2023 3:28:22 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-23 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 10:40:00 AM
Lab ID: 2312834-033 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/19/2023 5:12:02 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 5:12:02 PM
Surr: DNOP	117	69-147		%Rec	1	12/19/2023 5:12:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/21/2023 1:06:00 AM
Surr: BFB	98.8	15-244		%Rec	1	12/21/2023 1:06:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.023		mg/Kg	1	12/21/2023 1:06:00 AM
Toluene	ND	0.046		mg/Kg	1	12/21/2023 1:06:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	12/21/2023 1:06:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	12/21/2023 1:06:00 AM
Surr: 4-Bromofluorobenzene	97.3	39.1-146		%Rec	1	12/21/2023 1:06:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	100	60		mg/Kg	20	12/20/2023 3:43:31 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-24 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 10:45:00 AM
Lab ID: 2312834-034 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/19/2023 5:22:45 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2023 5:22:45 PM
Surr: DNOP	116	69-147		%Rec	1	12/19/2023 5:22:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 1:28:00 AM
Surr: BFB	101	15-244		%Rec	1	12/21/2023 1:28:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	12/21/2023 1:28:00 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 1:28:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 1:28:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/21/2023 1:28:00 AM
Surr: 4-Bromofluorobenzene	99.9	39.1-146		%Rec	1	12/21/2023 1:28:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	61		mg/Kg	20	12/20/2023 3:58:41 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-25 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 10:50:00 AM
Lab ID: 2312834-035 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/19/2023 5:33:28 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 5:33:28 PM
Surr: DNOP	89.5	69-147		%Rec	1	12/19/2023 5:33:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/21/2023 1:50:00 AM
Surr: BFB	101	15-244		%Rec	1	12/21/2023 1:50:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 1:50:00 AM
Toluene	ND	0.048		mg/Kg	1	12/21/2023 1:50:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/21/2023 1:50:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/21/2023 1:50:00 AM
Surr: 4-Bromofluorobenzene	97.9	39.1-146		%Rec	1	12/21/2023 1:50:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	380	60		mg/Kg	20	12/20/2023 4:13:50 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-26 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 10:55:00 AM
Lab ID: 2312834-036 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/19/2023 5:44:08 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2023 5:44:08 PM
Surr: DNOP	87.1	69-147		%Rec	1	12/19/2023 5:44:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 2:12:00 AM
Surr: BFB	104	15-244		%Rec	1	12/21/2023 2:12:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 2:12:00 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 2:12:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 2:12:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/21/2023 2:12:00 AM
Surr: 4-Bromofluorobenzene	96.6	39.1-146		%Rec	1	12/21/2023 2:12:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	66	59		mg/Kg	20	12/21/2023 10:53:24 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-27 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:00:00 AM
Lab ID: 2312834-037 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/19/2023 5:54:48 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2023 5:54:48 PM
Surr: DNOP	88.9	69-147		%Rec	1	12/19/2023 5:54:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 2:34:00 AM
Surr: BFB	103	15-244		%Rec	1	12/21/2023 2:34:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 2:34:00 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 2:34:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 2:34:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/21/2023 2:34:00 AM
Surr: 4-Bromofluorobenzene	99.4	39.1-146		%Rec	1	12/21/2023 2:34:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/21/2023 11:40:51 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-28 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:05:00 AM
Lab ID: 2312834-038 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/19/2023 6:05:26 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 6:05:26 PM
Surr: DNOP	89.9	69-147		%Rec	1	12/19/2023 6:05:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/21/2023 2:56:00 AM
Surr: BFB	102	15-244		%Rec	1	12/21/2023 2:56:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.023		mg/Kg	1	12/21/2023 2:56:00 AM
Toluene	ND	0.046		mg/Kg	1	12/21/2023 2:56:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	12/21/2023 2:56:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	12/21/2023 2:56:00 AM
Surr: 4-Bromofluorobenzene	96.4	39.1-146		%Rec	1	12/21/2023 2:56:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/21/2023 1:11:50 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-29 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:10:00 AM
Lab ID: 2312834-039 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/19/2023 6:16:02 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2023 6:16:02 PM
Surr: DNOP	93.2	69-147		%Rec	1	12/19/2023 6:16:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 3:18:00 AM
Surr: BFB	98.1	15-244		%Rec	1	12/21/2023 3:18:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 3:18:00 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 3:18:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 3:18:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/21/2023 3:18:00 AM
Surr: 4-Bromofluorobenzene	97.7	39.1-146		%Rec	1	12/21/2023 3:18:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/21/2023 1:27:00 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-30 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:15:00 AM
Lab ID: 2312834-040 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/19/2023 6:37:06 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 6:37:06 PM
Surr: DNOP	90.4	69-147		%Rec	1	12/19/2023 6:37:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/21/2023 4:02:00 AM
Surr: BFB	98.4	15-244		%Rec	1	12/21/2023 4:02:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 4:02:00 AM
Toluene	ND	0.048		mg/Kg	1	12/21/2023 4:02:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/21/2023 4:02:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/21/2023 4:02:00 AM
Surr: 4-Bromofluorobenzene	96.1	39.1-146		%Rec	1	12/21/2023 4:02:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/21/2023 5:47:26 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-31 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:20:00 AM
Lab ID: 2312834-041 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/19/2023 6:47:40 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 6:47:40 PM
Surr: DNOP	90.3	69-147		%Rec	1	12/19/2023 6:47:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/21/2023 4:24:00 AM
Surr: BFB	99.9	15-244		%Rec	1	12/21/2023 4:24:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 4:24:00 AM
Toluene	ND	0.048		mg/Kg	1	12/21/2023 4:24:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/21/2023 4:24:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/21/2023 4:24:00 AM
Surr: 4-Bromofluorobenzene	96.9	39.1-146		%Rec	1	12/21/2023 4:24:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/21/2023 6:32:54 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-32 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:25:00 AM
Lab ID: 2312834-042 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/19/2023 6:58:13 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2023 6:58:13 PM
Surr: DNOP	91.6	69-147		%Rec	1	12/19/2023 6:58:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/21/2023 4:46:00 AM
Surr: BFB	100	15-244		%Rec	1	12/21/2023 4:46:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.023		mg/Kg	1	12/21/2023 4:46:00 AM
Toluene	ND	0.047		mg/Kg	1	12/21/2023 4:46:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/21/2023 4:46:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/21/2023 4:46:00 AM
Surr: 4-Bromofluorobenzene	99.1	39.1-146		%Rec	1	12/21/2023 4:46:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	130	60		mg/Kg	20	12/21/2023 6:48:04 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-33 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:30:00 AM
Lab ID: 2312834-043 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/19/2023 7:08:44 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 7:08:44 PM
Surr: DNOP	90.6	69-147		%Rec	1	12/19/2023 7:08:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/21/2023 5:08:00 AM
Surr: BFB	97.4	15-244		%Rec	1	12/21/2023 5:08:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 5:08:00 AM
Toluene	ND	0.048		mg/Kg	1	12/21/2023 5:08:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/21/2023 5:08:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/21/2023 5:08:00 AM
Surr: 4-Bromofluorobenzene	97.3	39.1-146		%Rec	1	12/21/2023 5:08:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	230	60		mg/Kg	20	12/21/2023 3:28:17 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-34 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:35:00 AM
Lab ID: 2312834-044 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/19/2023 7:19:14 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2023 7:19:14 PM
Surr: DNOP	91.6	69-147		%Rec	1	12/19/2023 7:19:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/21/2023 5:30:00 AM
Surr: BFB	98.7	15-244		%Rec	1	12/21/2023 5:30:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	12/21/2023 5:30:00 AM
Toluene	ND	0.050		mg/Kg	1	12/21/2023 5:30:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/21/2023 5:30:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/21/2023 5:30:00 AM
Surr: 4-Bromofluorobenzene	97.3	39.1-146		%Rec	1	12/21/2023 5:30:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	190	60		mg/Kg	20	12/21/2023 3:43:27 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-35 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 11:40:00 AM
Lab ID: 2312834-045 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/19/2023 7:29:44 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 7:29:44 PM
Surr: DNOP	87.1	69-147		%Rec	1	12/19/2023 7:29:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 5:52:00 AM
Surr: BFB	107	15-244		%Rec	1	12/21/2023 5:52:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 5:52:00 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 5:52:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 5:52:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/21/2023 5:52:00 AM
Surr: 4-Bromofluorobenzene	99.2	39.1-146		%Rec	1	12/21/2023 5:52:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	260	60		mg/Kg	20	12/21/2023 3:58:36 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-36 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/12/2023 11:45:00 AM
Lab ID: 2312834-046 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	12/19/2023 7:40:13 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/19/2023 7:40:13 PM
Surr: DNOP	91.6	69-147		%Rec	1	12/19/2023 7:40:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/21/2023 6:14:00 AM
Surr: BFB	102	15-244		%Rec	1	12/21/2023 6:14:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	12/21/2023 6:14:00 AM
Toluene	ND	0.049		mg/Kg	1	12/21/2023 6:14:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/21/2023 6:14:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/21/2023 6:14:00 AM
Surr: 4-Bromofluorobenzene	100	39.1-146		%Rec	1	12/21/2023 6:14:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	260	60		mg/Kg	20	12/21/2023 4:13:46 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-37 2.5ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:50:00 AM
Lab ID: 2312834-047 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/19/2023 7:50:44 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 7:50:44 PM
Surr: DNOP	93.8	69-147		%Rec	1	12/19/2023 7:50:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/21/2023 6:36:00 AM
Surr: BFB	99.9	15-244		%Rec	1	12/21/2023 6:36:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 6:36:00 AM
Toluene	ND	0.048		mg/Kg	1	12/21/2023 6:36:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/21/2023 6:36:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/21/2023 6:36:00 AM
Surr: 4-Bromofluorobenzene	98.6	39.1-146		%Rec	1	12/21/2023 6:36:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	370	60		mg/Kg	20	12/21/2023 4:28:55 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312834**
Date Reported: **1/4/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS23-38 2ft
Project: Boyd Y Water Transfer **Collection Date:** 12/12/2023 11:55:00 AM
Lab ID: 2312834-048 **Matrix:** SOIL **Received Date:** 12/14/2023 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/19/2023 8:01:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2023 8:01:13 PM
Surr: DNOP	89.4	69-147		%Rec	1	12/19/2023 8:01:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/21/2023 6:58:00 AM
Surr: BFB	98.3	15-244		%Rec	1	12/21/2023 6:58:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/21/2023 6:58:00 AM
Toluene	ND	0.048		mg/Kg	1	12/21/2023 6:58:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/21/2023 6:58:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/21/2023 6:58:00 AM
Surr: 4-Bromofluorobenzene	97.9	39.1-146		%Rec	1	12/21/2023 6:58:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	240	60		mg/Kg	20	12/21/2023 4:44:05 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 Quanitative 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#: **2312834**

04-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **MB-79505** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **79505** RunNo: **101979**
Prep Date: **12/19/2023** Analysis Date: **12/19/2023** SeqNo: **3762727** Units: **mg/Kg**

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

Sample ID: **LCS-79505** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **79505** RunNo: **101979**
Prep Date: **12/19/2023** Analysis Date: **12/19/2023** SeqNo: **3762728** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	90	110			

Sample ID: **MB-79512** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **79512** RunNo: **102002**
Prep Date: **12/19/2023** Analysis Date: **12/20/2023** SeqNo: **3763719** Units: **mg/Kg**

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

Sample ID: **LCS-79512** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **79512** RunNo: **102002**
Prep Date: **12/19/2023** Analysis Date: **12/20/2023** SeqNo: **3763720** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Sample ID: **MB-79529** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **79529** RunNo: **102021**
Prep Date: **12/20/2023** Analysis Date: **12/21/2023** SeqNo: **3765787** Units: **mg/Kg**

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

Sample ID: **LCS-79529** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **79529** RunNo: **102021**
Prep Date: **12/20/2023** Analysis Date: **12/21/2023** SeqNo: **3765788** Units: **mg/Kg**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative 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#: **2312834**

04-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2312834-009AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS23-09 2ft**	Batch ID: **79486**	RunNo: **101937**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760767** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.2	45.83	0	91.4	54.2	135			
Surr: DNOP	4.7		4.583		102	69	147			

Sample ID: **2312834-009AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS23-09 2ft**	Batch ID: **79486**	RunNo: **101937**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760768** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	8.7	43.33	0	93.5	54.2	135	3.35	29.2	
Surr: DNOP	4.2		4.333		96.6	69	147	0	0	

Sample ID: **LCS-79486**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **79486**	RunNo: **101937**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760771** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.9	61.9	130			
Surr: DNOP	4.9		5.000		97.5	69	147			

Sample ID: **MB-79486**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79486**	RunNo: **101937**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760772** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.6		10.00		86.1	69	147			

Sample ID: **MB-79499**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79499**	RunNo: **101939**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760846** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.8		10.00		98.2	69	147			

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 Quanitative 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#: **2312834**

04-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **LCS-79499** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **79499** RunNo: **101939**
Prep Date: **12/19/2023** Analysis Date: **12/19/2023** SeqNo: **3760847** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	61.9	130			
Surr: DNOP	4.2		5.000		84.3	69	147			

Sample ID: **2312834-029AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS23-19 2ft** Batch ID: **79499** RunNo: **101939**
Prep Date: **12/19/2023** Analysis Date: **12/20/2023** SeqNo: **3760869** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	9.9	49.65	0	106	54.2	135			
Surr: DNOP	4.0		4.965		81.2	69	147			

Sample ID: **2312834-029AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS23-19 2ft** Batch ID: **79499** RunNo: **101939**
Prep Date: **12/19/2023** Analysis Date: **12/20/2023** SeqNo: **3760870** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.7	48.36	0	103	54.2	135	5.50	29.2	
Surr: DNOP	4.0		4.836		81.9	69	147	0	0	

Sample ID: **2312834-048AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS23-38 2ft** Batch ID: **79501** RunNo: **101937**
Prep Date: **12/19/2023** Analysis Date: **12/19/2023** SeqNo: **3761571** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.7	48.73	0	88.9	54.2	135			
Surr: DNOP	4.8		4.873		98.1	69	147			

Sample ID: **2312834-048AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS23-38 2ft** Batch ID: **79501** RunNo: **101937**
Prep Date: **12/19/2023** Analysis Date: **12/19/2023** SeqNo: **3761572** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.8	49.21	0	88.2	54.2	135	0.202	29.2	
Surr: DNOP	4.9		4.921		100	69	147	0	0	

Sample ID: **LCS-79501** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **79501** RunNo: **101937**
Prep Date: **12/19/2023** Analysis Date: **12/19/2023** SeqNo: **3761573** 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 Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2312834**

04-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **LCS-79501** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **79501** RunNo: **101937**

Prep Date: **12/19/2023** Analysis Date: **12/19/2023** SeqNo: **3761573** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.7	61.9	130			
Surr: DNOP	5.0		5.000		99.7	69	147			

Sample ID: **MB-79501** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **79501** RunNo: **101937**

Prep Date: **12/19/2023** Analysis Date: **12/19/2023** SeqNo: **3761574** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		113	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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#: **2312834**

04-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **lcs-79476**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79476**	RunNo: **101954**
Prep Date: **12/18/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760774** 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	99.2	70	130			
Surr: BFB	2100		1000		207	15	244			

Sample ID: **mb-79476**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79476**	RunNo: **101954**
Prep Date: **12/18/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760775** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	15	244			

Sample ID: **lcs-79493**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79493**	RunNo: **101991**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763091** 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	98.4	70	130			
Surr: BFB	2100		1000		208	15	244			

Sample ID: **mb-79493**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79493**	RunNo: **101991**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763092** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		95.8	15	244			

Sample ID: **2312834-010ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **WS23-10 2ft**	Batch ID: **79493**	RunNo: **101991**
Prep Date: **12/19/2023**	Analysis Date: **12/21/2023**	SeqNo: **3763094** 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	94.1	70	130			
Surr: BFB	2000		972.8		208	15	244			

Sample ID: **2312834-010AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **WS23-10 2ft**	Batch ID: **79493**	RunNo: **101991**
Prep Date: **12/19/2023**	Analysis Date: **12/21/2023**	SeqNo: **3763095** 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 Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2312834**

04-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2312834-010AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **WS23-10 2ft**	Batch ID: **79493**	RunNo: **101991**
Prep Date: **12/19/2023**	Analysis Date: **12/21/2023**	SeqNo: **3763095** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.39	0	94.8	70	130	1.01	20	
Surr: BFB	2100		975.6		210	15	244	0	0	

Sample ID: **lcs-79496**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79496**	RunNo: **101997**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763411** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.5	70	130			
Surr: BFB	2100		1000		214	15	244			

Sample ID: **mb-79496**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79496**	RunNo: **101997**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763412** 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	15	244			

Sample ID: **2312834-030ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS23-20 2ft**	Batch ID: **79496**	RunNo: **101997**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763414** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	23.81	0	105	70	130			
Surr: BFB	2100		952.4		226	15	244			

Sample ID: **2312834-030amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS23-20 2ft**	Batch ID: **79496**	RunNo: **101997**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763415** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.8	23.90	0	99.5	70	130	4.79	20	
Surr: BFB	2200		956.0		227	15	244	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2312834**

04-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **LCS-79476**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79476**	RunNo: **101954**
Prep Date: **12/18/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760802** 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	91.8	70	130			
Toluene	0.94	0.050	1.000	0	93.8	70	130			
Ethylbenzene	0.95	0.050	1.000	0	95.0	70	130			
Xylenes, Total	2.9	0.10	3.000	0	96.9	70	130			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.1	39.1	146			

Sample ID: **mb-79476**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79476**	RunNo: **101954**
Prep Date: **12/18/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760803** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.4	39.1	146			

Sample ID: **LCS-79493**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79493**	RunNo: **101991**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763120** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.0	70	130			
Toluene	0.97	0.050	1.000	0	96.8	70	130			
Ethylbenzene	0.97	0.050	1.000	0	97.4	70	130			
Xylenes, Total	3.0	0.10	3.000	0	98.4	70	130			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.1	39.1	146			

Sample ID: **mb-79493**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79493**	RunNo: **101991**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763122** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.6	39.1	146			

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 Quanitative 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#: **2312834**

04-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2312834-011ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS23-01 2.5ft**	Batch ID: **79493**	RunNo: **101991**
Prep Date: **12/19/2023**	Analysis Date: **12/21/2023**	SeqNo: **3763125** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.024	0.9785	0	96.7	70	130			
Toluene	0.97	0.049	0.9785	0	98.7	70	130			
Ethylbenzene	0.99	0.049	0.9785	0	101	70	130			
Xylenes, Total	3.0	0.098	2.935	0	101	70	130			
Surr: 4-Bromofluorobenzene	0.99		0.9785		101	39.1	146			

Sample ID: **2312834-011amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS23-01 2.5ft**	Batch ID: **79493**	RunNo: **101991**
Prep Date: **12/19/2023**	Analysis Date: **12/21/2023**	SeqNo: **3763126** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.024	0.9747	0	93.9	70	130	3.40	20	
Toluene	0.93	0.049	0.9747	0	95.6	70	130	3.60	20	
Ethylbenzene	0.96	0.049	0.9747	0	98.0	70	130	3.45	20	
Xylenes, Total	2.9	0.097	2.924	0	98.9	70	130	2.78	20	
Surr: 4-Bromofluorobenzene	0.94		0.9747		96.5	39.1	146	0	0	

Sample ID: **lcs-79496**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79496**	RunNo: **101997**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763647** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Ethylbenzene	1.0	0.050	1.000	0	103	70	130			
Xylenes, Total	3.1	0.10	3.000	0	103	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.9	39.1	146			

Sample ID: **mb-79496**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79496**	RunNo: **101997**
Prep Date: **12/19/2023**	Analysis Date: **12/20/2023**	SeqNo: **3763648** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		98.8	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2312834**

04-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2312834-031ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS23-21 2ft**	Batch ID: **79496**	RunNo: **101997**
Prep Date: **12/19/2023**	Analysis Date: **12/21/2023**	SeqNo: **3763651** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9416	0	111	70	130			
Toluene	1.1	0.047	0.9416	0	114	70	130			
Ethylbenzene	1.1	0.047	0.9416	0	118	70	130			
Xylenes, Total	3.4	0.094	2.825	0.02795	118	70	130			
Surr: 4-Bromofluorobenzene	0.95		0.9416		101	39.1	146			

Sample ID: **2312834-031amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS23-21 2ft**	Batch ID: **79496**	RunNo: **101997**
Prep Date: **12/19/2023**	Analysis Date: **12/21/2023**	SeqNo: **3763652** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9425	0	111	70	130	0.410	20	
Toluene	1.1	0.047	0.9425	0	113	70	130	0.740	20	
Ethylbenzene	1.1	0.047	0.9425	0	116	70	130	1.04	20	
Xylenes, Total	3.3	0.094	2.828	0.02795	116	70	130	1.40	20	
Surr: 4-Bromofluorobenzene	0.94		0.9425		99.3	39.1	146	0	0	

Qualifiers:

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

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
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 | Work Order Number: 2312834 | RcptNo: 1

Received By: Tracy Casarrubias 12/14/2023 8:15:00 AM

Completed By: Tracy Casarrubias 12/14/2023 9:05:52 AM

Reviewed By: 12-14-23

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? (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: 12/14/23

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: Mailing address,phone number and Email/Fax are missingon COC- TMC 12/14/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good	Yes	Yogi		

Chain-of-Custody Record

Client: **Silverback (Vertex)**

Mailing Address: **On File**

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☒ Rush 5 Day

Project Name: **Boyd Y Water Transfer**

Project #: **23E-05378**

Project Manager: **Chance Dixon**

Sampler: **Fernando Rodriguez**

On Ice: ☒ Yes ☐ No 4.9 4.9

# of Coolers: 1

Cooler Temp(including CF): 4.9 +0=4.9°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2312834	Analysis Request: (BTEX / MTBE / TMB's (8021))	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl, F, Br, NO_3, NO_2, PO_4, SO_4)	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/12/23	8:00	Soil	WS23-01 2.5ft	1, 4oz jar	Ice	001	X	X					X			
12/12/23	8:05	Soil	WS23-02 2.5ft	1, 4oz jar	Ice	002	X	X					X			
12/12/23	8:10	Soil	WS23-03 2.5ft	1, 4oz jar	Ice	003	X	X					X			
12/12/23	8:15	Soil	WS23-04 2ft	1, 4oz jar	Ice	004	X	X					X			
12/12/23	8:20	Soil	WS23-05 2ft	1, 4oz jar	Ice	005	X	X					X			
12/12/23	8:25	Soil	WS23-06 2ft	1, 4oz jar	Ice	006	X	X					X			
12/12/23	8:30	Soil	WS23-07 2ft	1, 4oz jar	Ice	007	X	X					X			
12/12/23	8:35	Soil	WS23-08 2ft	1, 4oz jar	Ice	008	X	X					X			
12/12/23	8:40	Soil	WS23-09 2ft	1, 4oz jar	Ice	009	X	X					X			
12/12/23	8:45	Soil	WS23-10 2ft	1, 4oz jar	Ice	010	X	X					X			
12/12/23	8:50	Soil	BS23-01 2.5ft	1, 4oz jar	Ice	011	X	X					X			
12/12/23	8:55	Soil	BS23-02 2.5ft	1, 4oz jar	Ice	012	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/12	17:00				12/13/23	900
12/13/23	1900			Courier	12/14/23	8:15

Remarks:

CC Chance Dixon and Fernando Rodriguez

Direct Bill to Silverback

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

Chain-of-Custody Record

Client: **Silverback (Vertex)**

Mailing Address: **On File**

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name: **Boyd Y Water Transfer**

Project #: **23E-05378**

Project Manager: **Chance Dixon**

Sampler: **Fernando Rodriguez**

On Ice: ☒ Yes ☐ No 4oz jar

# of Coolers: 1

Cooler Temp(Including CF): 4.9 +0 = 4.9 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2312834	Analysis Request: (BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl) F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/12/23	9:00	Soil	BS23-03 2.5ft	1, 4oz jar	Ice	013	X	X					X			
12/12/23	9:05	Soil	BS23-04 2.5ft	1, 4oz jar	Ice	014	X	X					X			
12/12/23	9:10	Soil	BS23-05 2.5ft	1, 4oz jar	Ice	015	X	X					X			
12/12/23	9:15	Soil	BS23-06 2.5ft	1, 4oz jar	Ice	016	X	X					X			
12/12/23	9:20	Soil	BS23-07 2ft	1, 4oz jar	Ice	017	X	X					X			
12/12/23	9:25	Soil	BS23-08 2ft	1, 4oz jar	Ice	018	X	X					X			
12/12/23	9:30	Soil	BS23-09 2ft	1, 4oz jar	Ice	019	X	X					X			
12/12/23	9:35	Soil	BS23-10 2ft	1, 4oz jar	Ice	020	X	X					X			
12/12/23	9:40	Soil	BS23-11 2ft	1, 4oz jar	Ice	021	X	X					X			
12/12/23	9:45	Soil	BS23-12 2ft	1, 4oz jar	Ice	022	X	X					X			
12/12/23	9:50	Soil	BS23-13 2ft	1, 4oz jar	Ice	023	X	X					X			
12/12/23	9:55	Soil	BS23-14 2ft	1, 4oz jar	Ice	024	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/12	17:00				12/13/23	900
12/13/23	1900			courier	12/14/23	8:15

Remarks:

CC Chance Dixon and Fernando Rodriguez

Direct Bill to Silverback

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Chain-of-Custody Record

Client: **Silverback (Vertex)**

Mailing Address: **On File**

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name: **Boyd Y Water Transfer**

Project #: **23E-05378**

Project Manager: **Chance Dixon**

Sampler: **Fernando Rodriguez**

On Ice: ☒ Yes ☐ No 4.0gi

# of Coolers: 1

Cooler Temp(including CF): 4.9 + 0 = 4.9 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2312834	Analysis Request: (BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/12/23	10:00	Soil	BS23-15 2ft	1, 4oz jar	Ice	025	X	X					X			
12/12/23	10:05	Soil	BS23-16 2ft	1, 4oz jar	Ice	026	X	X					X			
12/12/23	10:10	Soil	BS23-17 2ft	1, 4oz jar	Ice	027	X	X					X			
12/12/23	10:15	Soil	BS23-18 2ft	1, 4oz jar	Ice	028	X	X					X			
12/12/23	10:20	Soil	BS23-19 2ft	1, 4oz jar	Ice	029	X	X					X			
12/12/23	10:25	Soil	BS23-20 2ft	1, 4oz jar	Ice	030	X	X					X			
12/12/23	10:30	Soil	BS23-21 2ft	1, 4oz jar	Ice	031	X	X					X			
12/12/23	10:35	Soil	BS23-22 2ft	1, 4oz jar	Ice	032	X	X					X			
12/12/23	10:40	Soil	BS23-23 2ft	1, 4oz jar	Ice	033	X	X					X			
12/12/23	10:45	Soil	BS23-24 2ft	1, 4oz jar	Ice	034	X	X					X			
12/12/23	10:50	Soil	BS23-25 2ft	1, 4oz jar	Ice	035	X	X					X			
12/12/23	10:55	Soil	BS23-26 2ft	1, 4oz jar	Ice	036	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/12	17:00				12/13/23	900
12/13/23	1900			courier	12/14/23	8:15

Remarks:

CC Chance Dixon and Fernando Rodriguez

Direct Bill to Silverback

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Chain-of-Custody Record

Client: **Silverback (Vertex)**

Mailing Address: **On File**

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

☑ Standard ☑ Rush 5 Day

Project Name: **Boyd Y Water Transfer**

Project #: **23E-05378**

Project Manager: **Chance Dixon**

Sampler: **Fernando Rodriguez**

On Ice: ☑ Yes ☐ No 4.0gi

# of Coolers: 1

Cooler Temp(including CF): 4.9 ± 0 = 4.9 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 23128 34	Analysis Request: BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/12/23	11:00	Soil	BS23-27 2ft	1, 4oz jar	Ice	037	X	X					X			
12/12/23	11:05	Soil	BS23-28 2ft	1, 4oz jar	Ice	038	X	X					X			
12/12/23	11:10	Soil	BS23-29 2ft	1, 4oz jar	Ice	039	X	X					X			
12/12/23	11:15	Soil	BS23-30 2ft	1, 4oz jar	Ice	040	X	X					X			
12/12/23	11:20	Soil	BS23-31 2ft	1, 4oz jar	Ice	041	X	X					X			
12/12/23	11:25	Soil	BS23-32 2ft	1, 4oz jar	Ice	042	X	X					X			
12/12/23	11:30	Soil	BS23-33 2ft	1, 4oz jar	Ice	043	X	X					X			
12/12/23	11:35	Soil	BS23-34 2ft	1, 4oz jar	Ice	044	X	X					X			
12/12/23	11:40	Soil	BS23-35 2.5ft	1, 4oz jar	Ice	045	X	X					X			
12/12/23	11:45	Soil	BS23-36 2.5ft	1, 4oz jar	Ice	046	X	X					X			
12/12/23	11:50	Soil	BS23-37 2.5ft	1, 4oz jar	Ice	047	X	X					X			
12/12/23	11:55	Soil	BS23-38 2ft	1, 4oz jar	Ice	048	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/12	17:00				12/13/23	900
12/13/23	1910			courier	12/14/23	8:15

Remarks:

CC Chance Dixon and Fernando Rodriguez

Direct Bill to Silverback

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eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 05, 2024

Chance Dixon

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

RE: Boyd Y Water Transfer OrderNo.: 2312A97

Dear Chance Dixon:

Eurofins Environment Testing South Central, LLC received 32 sample(s) on 12/20/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-39 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:00:00 AM
Lab ID: 2312A97-001 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/29/2023 11:58:08 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/29/2023 11:58:08 AM
Surr: DNOP	113	69-147		%Rec	1	12/29/2023 11:58:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/25/2023 2:53:18 AM
Surr: BFB	99.3	15-244		%Rec	1	12/25/2023 2:53:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/25/2023 2:53:18 AM
Toluene	ND	0.049		mg/Kg	1	12/25/2023 2:53:18 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/25/2023 2:53:18 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/25/2023 2:53:18 AM
Surr: 4-Bromofluorobenzene	96.7	39.1-146		%Rec	1	12/25/2023 2:53:18 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/30/2023 11:30:05 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-40 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:05:00 AM
Lab ID: 2312A97-002 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/29/2023 12:08:34 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/29/2023 12:08:34 PM
Surr: DNOP	116	69-147		%Rec	1	12/29/2023 12:08:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/25/2023 3:17:29 AM
Surr: BFB	94.8	15-244		%Rec	1	12/25/2023 3:17:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/25/2023 3:17:29 AM
Toluene	ND	0.048		mg/Kg	1	12/25/2023 3:17:29 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/25/2023 3:17:29 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/25/2023 3:17:29 AM
Surr: 4-Bromofluorobenzene	93.1	39.1-146		%Rec	1	12/25/2023 3:17:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	98	60		mg/Kg	20	12/30/2023 12:07:18 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-41 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:10:00 AM
Lab ID: 2312A97-003 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/29/2023 12:19:00 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/29/2023 12:19:00 PM
Surr: DNOP	116	69-147		%Rec	1	12/29/2023 12:19:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/25/2023 3:41:16 AM
Surr: BFB	93.4	15-244		%Rec	1	12/25/2023 3:41:16 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/25/2023 3:41:16 AM
Toluene	ND	0.047		mg/Kg	1	12/25/2023 3:41:16 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/25/2023 3:41:16 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/25/2023 3:41:16 AM
Surr: 4-Bromofluorobenzene	91.3	39.1-146		%Rec	1	12/25/2023 3:41:16 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	12/30/2023 12:44:31 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-42 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:15:00 AM
Lab ID: 2312A97-004 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/29/2023 12:29:27 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/29/2023 12:29:27 PM
Surr: DNOP	119	69-147		%Rec	1	12/29/2023 12:29:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/25/2023 4:04:51 AM
Surr: BFB	95.3	15-244		%Rec	1	12/25/2023 4:04:51 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	12/25/2023 4:04:51 AM
Toluene	ND	0.050		mg/Kg	1	12/25/2023 4:04:51 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/25/2023 4:04:51 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/25/2023 4:04:51 AM
Surr: 4-Bromofluorobenzene	95.2	39.1-146		%Rec	1	12/25/2023 4:04:51 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	120	60		mg/Kg	20	12/30/2023 12:56:55 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-43 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:20:00 AM
Lab ID: 2312A97-005 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/29/2023 12:39:56 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2023 12:39:56 PM
Surr: DNOP	120	69-147		%Rec	1	12/29/2023 12:39:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/25/2023 4:28:29 AM
Surr: BFB	97.3	15-244		%Rec	1	12/25/2023 4:28:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/25/2023 4:28:29 AM
Toluene	ND	0.047		mg/Kg	1	12/25/2023 4:28:29 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/25/2023 4:28:29 AM
Xylenes, Total	ND	0.095		mg/Kg	1	12/25/2023 4:28:29 AM
Surr: 4-Bromofluorobenzene	95.9	39.1-146		%Rec	1	12/25/2023 4:28:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	150	60		mg/Kg	20	12/30/2023 1:34:10 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-44 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:25:00 AM
Lab ID: 2312A97-006 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/27/2023 6:30:51 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/27/2023 6:30:51 PM
Surr: DNOP	88.1	69-147		%Rec	1	12/27/2023 6:30:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/27/2023 6:43:00 PM
Surr: BFB	105	15-244		%Rec	1	12/27/2023 6:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	12/27/2023 6:43:00 PM
Toluene	ND	0.046		mg/Kg	1	12/27/2023 6:43:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	12/27/2023 6:43:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/27/2023 6:43:00 PM
Surr: 4-Bromofluorobenzene	99.0	39.1-146		%Rec	1	12/27/2023 6:43:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	190	60		mg/Kg	20	12/28/2023 8:16:44 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-45 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:30:00 AM
Lab ID: 2312A97-007 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/27/2023 7:42:25 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/27/2023 7:42:25 PM
Surr: DNOP	83.4	69-147		%Rec	1	12/27/2023 7:42:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/27/2023 7:49:00 PM
Surr: BFB	102	15-244		%Rec	1	12/27/2023 7:49:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/27/2023 7:49:00 PM
Toluene	ND	0.047		mg/Kg	1	12/27/2023 7:49:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/27/2023 7:49:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/27/2023 7:49:00 PM
Surr: 4-Bromofluorobenzene	97.2	39.1-146		%Rec	1	12/27/2023 7:49:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	350	60		mg/Kg	20	12/28/2023 9:02:14 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-46 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:35:00 AM
Lab ID: 2312A97-008 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/27/2023 8:06:14 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/27/2023 8:06:14 PM
Surr: DNOP	80.1	69-147		%Rec	1	12/27/2023 8:06:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/27/2023 8:54:00 PM
Surr: BFB	102	15-244		%Rec	1	12/27/2023 8:54:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/27/2023 8:54:00 PM
Toluene	ND	0.049		mg/Kg	1	12/27/2023 8:54:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/27/2023 8:54:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/27/2023 8:54:00 PM
Surr: 4-Bromofluorobenzene	95.4	39.1-146		%Rec	1	12/27/2023 8:54:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 9:17:24 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-47 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:40:00 AM
Lab ID: 2312A97-009 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/27/2023 8:29:58 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/27/2023 8:29:58 PM
Surr: DNOP	80.3	69-147		%Rec	1	12/27/2023 8:29:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/27/2023 9:16:00 PM
Surr: BFB	104	15-244		%Rec	1	12/27/2023 9:16:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/27/2023 9:16:00 PM
Toluene	ND	0.048		mg/Kg	1	12/27/2023 9:16:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/27/2023 9:16:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/27/2023 9:16:00 PM
Surr: 4-Bromofluorobenzene	97.6	39.1-146		%Rec	1	12/27/2023 9:16:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	77	60		mg/Kg	20	12/28/2023 9:32:33 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-48 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:45:00 AM
Lab ID: 2312A97-010 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/27/2023 8:53:42 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/27/2023 8:53:42 PM
Surr: DNOP	81.9	69-147		%Rec	1	12/27/2023 8:53:42 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/27/2023 9:38:00 PM
Surr: BFB	102	15-244		%Rec	1	12/27/2023 9:38:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/27/2023 9:38:00 PM
Toluene	ND	0.047		mg/Kg	1	12/27/2023 9:38:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/27/2023 9:38:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	12/27/2023 9:38:00 PM
Surr: 4-Bromofluorobenzene	96.3	39.1-146		%Rec	1	12/27/2023 9:38:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	170	60		mg/Kg	20	12/28/2023 9:47:43 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-49 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:50:00 AM
Lab ID: 2312A97-011 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/27/2023 9:17:23 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/27/2023 9:17:23 PM
Surr: DNOP	80.4	69-147		%Rec	1	12/27/2023 9:17:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/27/2023 10:00:00 PM
Surr: BFB	101	15-244		%Rec	1	12/27/2023 10:00:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/27/2023 10:00:00 PM
Toluene	ND	0.048		mg/Kg	1	12/27/2023 10:00:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/27/2023 10:00:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/27/2023 10:00:00 PM
Surr: 4-Bromofluorobenzene	98.0	39.1-146		%Rec	1	12/27/2023 10:00:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	190	60		mg/Kg	20	12/28/2023 10:02:52 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-50 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 8:55:00 AM
Lab ID: 2312A97-012 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/27/2023 9:41:20 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/27/2023 9:41:20 PM
Surr: DNOP	83.1	69-147		%Rec	1	12/27/2023 9:41:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/27/2023 10:22:00 PM
Surr: BFB	103	15-244		%Rec	1	12/27/2023 10:22:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	12/27/2023 10:22:00 PM
Toluene	ND	0.047		mg/Kg	1	12/27/2023 10:22:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/27/2023 10:22:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	12/27/2023 10:22:00 PM
Surr: 4-Bromofluorobenzene	97.1	39.1-146		%Rec	1	12/27/2023 10:22:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	240	60		mg/Kg	20	12/28/2023 10:18:03 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-51 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:00:00 AM
Lab ID: 2312A97-013 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/27/2023 10:04:59 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/27/2023 10:04:59 PM
Surr: DNOP	82.9	69-147		%Rec	1	12/27/2023 10:04:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/27/2023 10:43:00 PM
Surr: BFB	101	15-244		%Rec	1	12/27/2023 10:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	12/27/2023 10:43:00 PM
Toluene	ND	0.046		mg/Kg	1	12/27/2023 10:43:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	12/27/2023 10:43:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/27/2023 10:43:00 PM
Surr: 4-Bromofluorobenzene	96.7	39.1-146		%Rec	1	12/27/2023 10:43:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	140	60		mg/Kg	20	12/28/2023 10:33:13 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-52 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:05:00 AM
Lab ID: 2312A97-014 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/27/2023 10:52:21 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/27/2023 10:52:21 PM
Surr: DNOP	83.1	69-147		%Rec	1	12/27/2023 10:52:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/27/2023 11:05:00 PM
Surr: BFB	101	15-244		%Rec	1	12/27/2023 11:05:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/27/2023 11:05:00 PM
Toluene	ND	0.048		mg/Kg	1	12/27/2023 11:05:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/27/2023 11:05:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/27/2023 11:05:00 PM
Surr: 4-Bromofluorobenzene	95.8	39.1-146		%Rec	1	12/27/2023 11:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 10:48:22 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-53 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:10:00 AM
Lab ID: 2312A97-015 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/27/2023 11:16:04 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/27/2023 11:16:04 PM
Surr: DNOP	84.4	69-147		%Rec	1	12/27/2023 11:16:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/27/2023 11:27:00 PM
Surr: BFB	103	15-244		%Rec	1	12/27/2023 11:27:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/27/2023 11:27:00 PM
Toluene	ND	0.048		mg/Kg	1	12/27/2023 11:27:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/27/2023 11:27:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/27/2023 11:27:00 PM
Surr: 4-Bromofluorobenzene	95.6	39.1-146		%Rec	1	12/27/2023 11:27:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 11:03:31 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-54 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:15:00 AM
Lab ID: 2312A97-016 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/27/2023 11:39:47 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/27/2023 11:39:47 PM
Surr: DNOP	79.3	69-147		%Rec	1	12/27/2023 11:39:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/28/2023 12:10:00 AM
Surr: BFB	103	15-244		%Rec	1	12/28/2023 12:10:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	12/28/2023 12:10:00 AM
Toluene	ND	0.046		mg/Kg	1	12/28/2023 12:10:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	12/28/2023 12:10:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	12/28/2023 12:10:00 AM
Surr: 4-Bromofluorobenzene	95.7	39.1-146		%Rec	1	12/28/2023 12:10:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/28/2023 11:18:41 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-55 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:20:00 AM
Lab ID: 2312A97-017 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/28/2023 12:03:32 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/28/2023 12:03:32 AM
Surr: DNOP	80.9	69-147		%Rec	1	12/28/2023 12:03:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/28/2023 12:32:00 AM
Surr: BFB	103	15-244		%Rec	1	12/28/2023 12:32:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/28/2023 12:32:00 AM
Toluene	ND	0.047		mg/Kg	1	12/28/2023 12:32:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/28/2023 12:32:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	12/28/2023 12:32:00 AM
Surr: 4-Bromofluorobenzene	97.3	39.1-146		%Rec	1	12/28/2023 12:32:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/29/2023 12:04:18 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-56 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:25:00 AM
Lab ID: 2312A97-018 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/28/2023 12:27:15 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/28/2023 12:27:15 AM
Surr: DNOP	78.6	69-147		%Rec	1	12/28/2023 12:27:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/28/2023 12:54:00 AM
Surr: BFB	102	15-244		%Rec	1	12/28/2023 12:54:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	12/28/2023 12:54:00 AM
Toluene	ND	0.050		mg/Kg	1	12/28/2023 12:54:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/28/2023 12:54:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/28/2023 12:54:00 AM
Surr: 4-Bromofluorobenzene	96.7	39.1-146		%Rec	1	12/28/2023 12:54:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/29/2023 12:19:28 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-57 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:30:00 AM
Lab ID: 2312A97-019 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/28/2023 12:50:52 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/28/2023 12:50:52 AM
Surr: DNOP	78.6	69-147		%Rec	1	12/28/2023 12:50:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/28/2023 1:16:00 AM
Surr: BFB	100	15-244		%Rec	1	12/28/2023 1:16:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	12/28/2023 1:16:00 AM
Toluene	ND	0.050		mg/Kg	1	12/28/2023 1:16:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/28/2023 1:16:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/28/2023 1:16:00 AM
Surr: 4-Bromofluorobenzene	96.4	39.1-146		%Rec	1	12/28/2023 1:16:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/29/2023 1:04:55 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-58 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:35:00 AM
Lab ID: 2312A97-020 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/28/2023 1:14:29 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/28/2023 1:14:29 AM
Surr: DNOP	76.8	69-147		%Rec	1	12/28/2023 1:14:29 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/28/2023 1:38:00 AM
Surr: BFB	105	15-244		%Rec	1	12/28/2023 1:38:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/28/2023 1:38:00 AM
Toluene	ND	0.047		mg/Kg	1	12/28/2023 1:38:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/28/2023 1:38:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/28/2023 1:38:00 AM
Surr: 4-Bromofluorobenzene	97.7	39.1-146		%Rec	1	12/28/2023 1:38:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/30/2023 1:13:12 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-59 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:40:00 AM
Lab ID: 2312A97-021 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/28/2023 1:38:02 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/28/2023 1:38:02 AM
Surr: DNOP	81.2	69-147		%Rec	1	12/28/2023 1:38:02 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/28/2023 2:00:00 AM
Surr: BFB	101	15-244		%Rec	1	12/28/2023 2:00:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	12/28/2023 2:00:00 AM
Toluene	ND	0.046		mg/Kg	1	12/28/2023 2:00:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	12/28/2023 2:00:00 AM
Xylenes, Total	ND	0.091		mg/Kg	1	12/28/2023 2:00:00 AM
Surr: 4-Bromofluorobenzene	96.9	39.1-146		%Rec	1	12/28/2023 2:00:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/30/2023 1:58:40 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-60 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:45:00 AM
Lab ID: 2312A97-022 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/28/2023 2:01:43 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/28/2023 2:01:43 AM
Surr: DNOP	81.5	69-147		%Rec	1	12/28/2023 2:01:43 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/28/2023 2:22:00 AM
Surr: BFB	106	15-244		%Rec	1	12/28/2023 2:22:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	12/28/2023 2:22:00 AM
Toluene	ND	0.050		mg/Kg	1	12/28/2023 2:22:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/28/2023 2:22:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/28/2023 2:22:00 AM
Surr: 4-Bromofluorobenzene	96.6	39.1-146		%Rec	1	12/28/2023 2:22:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/30/2023 2:44:09 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-61 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:50:00 AM
Lab ID: 2312A97-023 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/28/2023 2:25:16 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/28/2023 2:25:16 AM
Surr: DNOP	84.7	69-147		%Rec	1	12/28/2023 2:25:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/28/2023 2:43:00 AM
Surr: BFB	102	15-244		%Rec	1	12/28/2023 2:43:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	12/28/2023 2:43:00 AM
Toluene	ND	0.047		mg/Kg	1	12/28/2023 2:43:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/28/2023 2:43:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/28/2023 2:43:00 AM
Surr: 4-Bromofluorobenzene	95.5	39.1-146		%Rec	1	12/28/2023 2:43:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/30/2023 2:59:18 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-62 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 9:55:00 AM
Lab ID: 2312A97-024 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/28/2023 2:48:57 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/28/2023 2:48:57 AM
Surr: DNOP	82.9	69-147		%Rec	1	12/28/2023 2:48:57 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/28/2023 3:27:00 AM
Surr: BFB	103	15-244		%Rec	1	12/28/2023 3:27:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	12/28/2023 3:27:00 AM
Toluene	ND	0.047		mg/Kg	1	12/28/2023 3:27:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/28/2023 3:27:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	12/28/2023 3:27:00 AM
Surr: 4-Bromofluorobenzene	96.5	39.1-146		%Rec	1	12/28/2023 3:27:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	160	60		mg/Kg	20	12/29/2023 10:41:36 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-63 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 10:00:00 AM
Lab ID: 2312A97-025 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/28/2023 3:12:32 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/28/2023 3:12:32 AM
Surr: DNOP	82.4	69-147		%Rec	1	12/28/2023 3:12:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/28/2023 3:49:00 AM
Surr: BFB	104	15-244		%Rec	1	12/28/2023 3:49:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/28/2023 3:49:00 AM
Toluene	ND	0.047		mg/Kg	1	12/28/2023 3:49:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/28/2023 3:49:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/28/2023 3:49:00 AM
Surr: 4-Bromofluorobenzene	96.2	39.1-146		%Rec	1	12/28/2023 3:49:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	130	60		mg/Kg	20	12/29/2023 10:56:45 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-64 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 10:05:00 AM
Lab ID: 2312A97-026 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/29/2023 12:11:28 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/29/2023 12:11:28 AM
Surr: DNOP	94.0	69-147		%Rec	1	12/29/2023 12:11:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/28/2023 4:02:00 PM
Surr: BFB	106	15-244		%Rec	1	12/28/2023 4:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/28/2023 4:02:00 PM
Toluene	ND	0.048		mg/Kg	1	12/28/2023 4:02:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/28/2023 4:02:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/28/2023 4:02:00 PM
Surr: 4-Bromofluorobenzene	98.7	39.1-146		%Rec	1	12/28/2023 4:02:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	61		mg/Kg	20	12/29/2023 11:11:55 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-65 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 10:10:00 AM
Lab ID: 2312A97-027 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/29/2023 12:42:24 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/29/2023 12:42:24 AM
Surr: DNOP	91.1	69-147		%Rec	1	12/29/2023 12:42:24 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/28/2023 5:08:00 PM
Surr: BFB	106	15-244		%Rec	1	12/28/2023 5:08:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	12/28/2023 5:08:00 PM
Toluene	ND	0.050		mg/Kg	1	12/28/2023 5:08:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/28/2023 5:08:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/28/2023 5:08:00 PM
Surr: 4-Bromofluorobenzene	99.6	39.1-146		%Rec	1	12/28/2023 5:08:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	180	60		mg/Kg	20	12/29/2023 11:27:06 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-66 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 10:15:00 AM
Lab ID: 2312A97-028 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/29/2023 12:52:40 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2023 12:52:40 AM
Surr: DNOP	91.6	69-147		%Rec	1	12/29/2023 12:52:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/28/2023 6:13:00 PM
Surr: BFB	98.8	15-244		%Rec	1	12/28/2023 6:13:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	12/28/2023 6:13:00 PM
Toluene	ND	0.047		mg/Kg	1	12/28/2023 6:13:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/28/2023 6:13:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/28/2023 6:13:00 PM
Surr: 4-Bromofluorobenzene	94.3	39.1-146		%Rec	1	12/28/2023 6:13:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	12/29/2023 11:42:15 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-67 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 10:20:00 AM
Lab ID: 2312A97-029 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/29/2023 1:02:58 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/29/2023 1:02:58 AM
Surr: DNOP	92.7	69-147		%Rec	1	12/29/2023 1:02:58 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/28/2023 6:35:00 PM
Surr: BFB	103	15-244		%Rec	1	12/28/2023 6:35:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	12/28/2023 6:35:00 PM
Toluene	ND	0.046		mg/Kg	1	12/28/2023 6:35:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	12/28/2023 6:35:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/28/2023 6:35:00 PM
Surr: 4-Bromofluorobenzene	97.3	39.1-146		%Rec	1	12/28/2023 6:35:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	99	60		mg/Kg	20	12/29/2023 11:57:25 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-68 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 10:25:00 AM
Lab ID: 2312A97-030 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/29/2023 1:13:16 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/29/2023 1:13:16 AM
Surr: DNOP	93.9	69-147		%Rec	1	12/29/2023 1:13:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/28/2023 6:57:00 PM
Surr: BFB	105	15-244		%Rec	1	12/28/2023 6:57:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/28/2023 6:57:00 PM
Toluene	ND	0.048		mg/Kg	1	12/28/2023 6:57:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/28/2023 6:57:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/28/2023 6:57:00 PM
Surr: 4-Bromofluorobenzene	98.0	39.1-146		%Rec	1	12/28/2023 6:57:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	83	60		mg/Kg	20	12/30/2023 12:12:34 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-69 2ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 10:30:00 AM
Lab ID: 2312A97-031 **Matrix:** SOIL **Received Date:** 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/29/2023 1:23:46 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/29/2023 1:23:46 AM
Surr: DNOP	91.8	69-147		%Rec	1	12/29/2023 1:23:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/28/2023 7:19:00 PM
Surr: BFB	106	15-244		%Rec	1	12/28/2023 7:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/28/2023 7:19:00 PM
Toluene	ND	0.048		mg/Kg	1	12/28/2023 7:19:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/28/2023 7:19:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/28/2023 7:19:00 PM
Surr: 4-Bromofluorobenzene	99.4	39.1-146		%Rec	1	12/28/2023 7:19:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	140	60		mg/Kg	20	12/30/2023 12:27:43 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2312A97**
Date Reported: **1/5/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-70 2.5ft
Project: Boyd Y Water Transfer
Collection Date: 12/15/2023 10:35:00 AM
Lab ID: 2312A97-032 **Matrix:** SOIL
Received Date: 12/20/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/29/2023 1:34:04 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2023 1:34:04 AM
Surr: DNOP	102	69-147		%Rec	1	12/29/2023 1:34:04 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/28/2023 7:41:00 PM
Surr: BFB	98.2	15-244		%Rec	1	12/28/2023 7:41:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	12/28/2023 7:41:00 PM
Toluene	ND	0.048		mg/Kg	1	12/28/2023 7:41:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/28/2023 7:41:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/28/2023 7:41:00 PM
Surr: 4-Bromofluorobenzene	96.5	39.1-146		%Rec	1	12/28/2023 7:41:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	59		mg/Kg	20	12/29/2023 8:09:54 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Quanitative 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#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **MB-79657**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **79657**	RunNo: **102121**							
Prep Date: **12/28/2023**	Analysis Date: **12/28/2023**	SeqNo: **3771779**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-79657**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **79657**	RunNo: **102121**							
Prep Date: **12/28/2023**	Analysis Date: **12/28/2023**	SeqNo: **3771780**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Sample ID: **MB-79662**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **79662**	RunNo: **102174**							
Prep Date: **12/29/2023**	Analysis Date: **12/29/2023**	SeqNo: **3771877**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-79662**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **79662**	RunNo: **102174**							
Prep Date: **12/29/2023**	Analysis Date: **12/29/2023**	SeqNo: **3771878**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.2	90	110			

Sample ID: **MB-79668**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **79668**	RunNo: **102182**							
Prep Date: **12/29/2023**	Analysis Date: **12/30/2023**	SeqNo: **3772203**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-79668**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **79668**	RunNo: **102182**							
Prep Date: **12/29/2023**	Analysis Date: **12/30/2023**	SeqNo: **3772204**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **MB-79620**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79620**	RunNo: **102113**
Prep Date: **12/27/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768950** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		88.9	69	147			

Sample ID: **LCS-79620**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **79620**	RunNo: **102113**
Prep Date: **12/27/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768951** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.9	61.9	130			
Surr: DNOP	4.6		5.000		92.0	69	147			

Sample ID: **2312A97-006AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS23-44 2.5ft**	Batch ID: **79620**	RunNo: **102113**
Prep Date: **12/27/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768953** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.8	48.88	0	91.0	54.2	135			
Surr: DNOP	4.5		4.888		93.1	69	147			

Sample ID: **2312A97-006AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS23-44 2.5ft**	Batch ID: **79620**	RunNo: **102113**
Prep Date: **12/27/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768954** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.4	47.08	0	91.7	54.2	135	2.99	29.2	
Surr: DNOP	4.2		4.708		88.9	69	147	0	0	

Sample ID: **2312A97-026AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS23-64 2ft**	Batch ID: **79650**	RunNo: **102126**
Prep Date: **12/28/2023**	Analysis Date: **12/29/2023**	SeqNo: **3770372** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.6	48.22	0	97.1	54.2	135			
Surr: DNOP	5.0		4.822		103	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2312A97-026AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS23-64 2ft** Batch ID: **79650** RunNo: **102126**
Prep Date: **12/28/2023** Analysis Date: **12/29/2023** SeqNo: **3770373** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.6	47.80	0	93.5	54.2	135	4.60	29.2	
Surr: DNOP	5.0		4.780		104	69	147	0	0	

Sample ID: **LCS-79650** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **79650** RunNo: **102126**
Prep Date: **12/28/2023** Analysis Date: **12/29/2023** SeqNo: **3770399** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.3	61.9	130			
Surr: DNOP	4.7		5.000		94.0	69	147			

Sample ID: **MB-79650** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **79650** RunNo: **102126**
Prep Date: **12/28/2023** Analysis Date: **12/28/2023** SeqNo: **3770401** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.4	69	147			

Sample ID: **LCS-79660** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **79660** RunNo: **102160**
Prep Date: **12/29/2023** Analysis Date: **12/29/2023** SeqNo: **3770883** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	82.2	61.9	130			
Surr: DNOP	4.8		5.000		96.7	69	147			

Sample ID: **LCS-79661** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **79661** RunNo: **102160**
Prep Date: **12/29/2023** Analysis Date: **12/29/2023** SeqNo: **3770884** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		106	69	147			

Sample ID: **MB-79660** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **79660** RunNo: **102160**
Prep Date: **12/29/2023** Analysis Date: **12/29/2023** SeqNo: **3770885** 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 Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **MB-79660**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79660**	RunNo: **102160**
Prep Date: **12/29/2023**	Analysis Date: **12/29/2023**	SeqNo: **3770885** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		113	69	147			

Sample ID: **MB-79661**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79661**	RunNo: **102160**
Prep Date: **12/29/2023**	Analysis Date: **12/29/2023**	SeqNo: **3770886** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		124	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
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#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **lcs-79573**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79573**	RunNo: **102079**
Prep Date: **12/22/2023**	Analysis Date: **12/24/2023**	SeqNo: **3767289** 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	97.1	70	130			
Surr: BFB	2000		1000		204	15	244			

Sample ID: **mb-79573**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79573**	RunNo: **102079**
Prep Date: **12/22/2023**	Analysis Date: **12/24/2023**	SeqNo: **3767290** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.3	15	244			

Sample ID: **lcs-79584**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79584**	RunNo: **102108**
Prep Date: **12/22/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768876** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.5	70	130			
Surr: BFB	2200		1000		219	15	244			

Sample ID: **mb-79584**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79584**	RunNo: **102108**
Prep Date: **12/22/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768877** 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	15	244			

Sample ID: **2312A97-006ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS23-44 2.5ft**	Batch ID: **79584**	RunNo: **102108**
Prep Date: **12/22/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768879** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.6	23.19	0	89.0	70	130			
Surr: BFB	2100		927.6		222	15	244			

Sample ID: **2312A97-006amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS23-44 2.5ft**	Batch ID: **79584**	RunNo: **102108**
Prep Date: **12/22/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768880** 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 Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2312A97-006amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS23-44 2.5ft**	Batch ID: **79584**	RunNo: **102108**
Prep Date: **12/22/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768880** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.7	23.28	0	88.4	70	130	0.350	20	
Surr: BFB	2100		931.1		231	15	244	0	0	

Sample ID: **lcs-79588**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79588**	RunNo: **102140**
Prep Date: **12/22/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769744** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.2	70	130			
Surr: BFB	2200		1000		218	15	244			

Sample ID: **mb-79588**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79588**	RunNo: **102140**
Prep Date: **12/22/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769745** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		107	15	244			

Sample ID: **2312A97-026ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS23-64 2ft**	Batch ID: **79588**	RunNo: **102140**
Prep Date: **12/22/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769750** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.8	23.99	0	85.4	70	130			
Surr: BFB	2200		959.7		225	15	244			

Sample ID: **2312A97-026amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS23-64 2ft**	Batch ID: **79588**	RunNo: **102140**
Prep Date: **12/22/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769752** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	24.15	0	90.8	70	130	6.76	20	
Surr: BFB	2200		966.2		223	15	244	0	0	

Sample ID: **lcs-79553**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79553**	RunNo: **102112**
Prep Date: **12/21/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769854** Units: **%Rec**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **lcs-79553**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79553**	RunNo: **102112**
Prep Date: **12/21/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769854** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		204	15	244			

Sample ID: **mb-79553**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79553**	RunNo: **102112**
Prep Date: **12/21/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769855** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	970		1000		96.7	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **LCS-79573**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79573**	RunNo: **102079**
Prep Date: **12/22/2023**	Analysis Date: **12/24/2023**	SeqNo: **3767316** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.0	70	130			
Toluene	0.90	0.050	1.000	0	89.8	70	130			
Ethylbenzene	0.91	0.050	1.000	0	90.7	70	130			
Xylenes, Total	2.7	0.10	3.000	0	91.5	70	130			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.0	39.1	146			

Sample ID: **mb-79573**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79573**	RunNo: **102079**
Prep Date: **12/22/2023**	Analysis Date: **12/24/2023**	SeqNo: **3767317** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		96.7	39.1	146			

Sample ID: **lcs-79584**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79584**	RunNo: **102108**
Prep Date: **12/22/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768903** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.4	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Ethylbenzene	0.90	0.050	1.000	0	90.5	70	130			
Xylenes, Total	2.7	0.10	3.000	0	91.0	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	39.1	146			

Sample ID: **mb-79584**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79584**	RunNo: **102108**
Prep Date: **12/22/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768904** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		96.5	39.1	146			

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 Quanitative 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#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2312A97-007ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS23-45 2ft**	Batch ID: **79584**	RunNo: **102108**
Prep Date: **12/22/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768907** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.024	0.9470	0	83.2	70	130			
Toluene	0.82	0.047	0.9470	0	86.3	70	130			
Ethylbenzene	0.84	0.047	0.9470	0	89.0	70	130			
Xylenes, Total	2.5	0.095	2.841	0	89.5	70	130			
Surr: 4-Bromofluorobenzene	0.95		0.9470		100	39.1	146			

Sample ID: **2312A97-007amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS23-45 2ft**	Batch ID: **79584**	RunNo: **102108**
Prep Date: **12/22/2023**	Analysis Date: **12/27/2023**	SeqNo: **3768908** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.77	0.024	0.9497	0	81.2	70	130	2.19	20	
Toluene	0.80	0.047	0.9497	0	84.3	70	130	2.04	20	
Ethylbenzene	0.83	0.047	0.9497	0	87.6	70	130	1.36	20	
Xylenes, Total	2.5	0.095	2.849	0	87.9	70	130	1.44	20	
Surr: 4-Bromofluorobenzene	0.95		0.9497		99.7	39.1	146	0	0	

Sample ID: **lcs-79588**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79588**	RunNo: **102140**
Prep Date: **12/22/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769793** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.025	1.000	0	81.2	70	130			
Toluene	0.82	0.050	1.000	0	82.1	70	130			
Ethylbenzene	0.85	0.050	1.000	0	85.2	70	130			
Xylenes, Total	2.6	0.10	3.000	0	85.6	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	39.1	146			

Sample ID: **mb-79588**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79588**	RunNo: **102140**
Prep Date: **12/22/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769795** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		99.3	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2312A97**

05-Jan-24

Client: Vertex Resources Services, Inc.

Project: Boyd Y Water Transfer

Sample ID: **2312A97-027ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS23-65 2ft**	Batch ID: **79588**	RunNo: **102140**
Prep Date: **12/22/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769801** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.77	0.025	1.000	0	76.6	70	130			
Toluene	0.85	0.050	1.000	0	85.2	70	130			
Ethylbenzene	0.91	0.050	1.000	0	90.9	70	130			
Xylenes, Total	2.7	0.10	3.000	0	91.3	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.5	39.1	146			

Sample ID: **2312A97-027amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS23-65 2ft**	Batch ID: **79588**	RunNo: **102140**
Prep Date: **12/22/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769803** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.75	0.025	0.9921	0	76.0	70	130	1.62	20	
Toluene	0.79	0.050	0.9921	0	80.0	70	130	7.06	20	
Ethylbenzene	0.82	0.050	0.9921	0	83.2	70	130	9.66	20	
Xylenes, Total	2.5	0.099	2.976	0	83.5	70	130	9.71	20	
Surr: 4-Bromofluorobenzene	0.99		0.9921		99.4	39.1	146	0	0	

Sample ID: **LCS-79553**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79553**	RunNo: **102112**
Prep Date: **12/21/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769868** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.92		1.000		91.6	39.1	146			

Sample ID: **mb-79553**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79553**	RunNo: **102112**
Prep Date: **12/21/2023**	Analysis Date: **12/28/2023**	SeqNo: **3769869** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94		1.000		94.1	39.1	146			

Qualifiers:

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

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
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 Work Order Number: 2312A97 RcptNo: 1

Received By: Tracy Casarrubias 12/20/2023 7:40:00 AM

Completed By: Tracy Casarrubias 12/20/2023 8:20:34 AM

Reviewed By: JM 12/20/23

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? (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: JM 12/20/23

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: Mailing address,phone number and Email/Fax are missing on COC- TMC 12/20/23

16. Additional remarks:

17. **Cooler Information**

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

Chain-of-Custody Record

Client: **Silverback (Vertex)**

Mailing Address: **On File**

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☑ Rush 5 Day

Project Name: **Boyd Y Water Transfer**

Project #: **23E-05378**

Project Manager: **Chance Dixon**

Sampler: **Fernando Rodriguez**

On Ice: ☒ Yes ☐ No monty

# of Coolers: 1

Cooler Temp(including CF): 4.5 ± 0 = 4.5 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2312A97	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/15/23	8:00	Soil	BS23-39 2ft	1, 4oz jar	Ice	001	X	X					X			
12/15/23	8:05	Soil	BS23-40 2ft	1, 4oz jar	Ice	002	X	X					X			
12/15/23	8:10	Soil	BS23-41 2ft	1, 4oz jar	Ice	003	X	X					X			
12/15/23	8:15	Soil	BS23-42 2.5ft	1, 4oz jar	Ice	004	X	X					X			
12/15/23	8:20	Soil	BS23-43 2.5ft	1, 4oz jar	Ice	005	X	X					X			
12/15/23	8:25	Soil	BS23-44 2.5ft	1, 4oz jar	Ice	006	X	X					X			
12/15/23	8:30	Soil	BS23-45 2ft	1, 4oz jar	Ice	007	X	X					X			
12/15/23	8:35	Soil	BS23-46 2ft	1, 4oz jar	Ice	008	X	X					X			
12/15/23	8:40	Soil	BS23-47 2ft	1, 4oz jar	Ice	009	X	X					X			
12/15/23	8:45	Soil	BS23-48 2ft	1, 4oz jar	Ice	010	X	X					X			
12/15/23	8:50	Soil	BS23-49 2ft	1, 4oz jar	Ice	011	X	X					X			
12/15/23	8:55	Soil	BS23-50 2ft	1, 4oz jar	Ice	012	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/15	17:00				12/19/23	800
12/19/23	1900			courier	12/20/23	7:40

Remarks:

CC Chance Dixon and Fernando Rodriguez

Direct Bill to Silverback

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

Chain-of-Custody Record

Client: **Silverback (Vertex)**

Mailing Address: **On File**

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

~~☐~~ Standard ☑ Rush 5 Day

Project Name: **Boyd Y Water Transfer**

Project #: **23E-05378**

Project Manager: **Chance Dixon**

Sampler: **Fernando Rodriguez**

On Ice: ☑ Yes ☐ No mort

# of Coolers: 1

Cooler Temp(including CF): 4.5 + 0 = 4.5°c

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4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2312A97	Analysis Request: (BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/15/23	9:00	Soil	BS23-51 2ft	1, 4oz jar	Ice	013	X	X					X			
12/15/23	9:05	Soil	BS23-52 2ft	1, 4oz jar	Ice	014	X	X					X			
12/15/23	9:10	Soil	BS23-53 2ft	1, 4oz jar	Ice	015	X	X					X			
12/15/23	9:15	Soil	BS23-54 2ft	1, 4oz jar	Ice	016	X	X					X			
12/15/23	9:20	Soil	BS23-55 2ft	1, 4oz jar	Ice	017	X	X					X			
12/15/23	9:25	Soil	BS23-56 2ft	1, 4oz jar	Ice	018	X	X					X			
12/15/23	9:30	Soil	BS23-57 2ft	1, 4oz jar	Ice	019	X	X					X			
12/15/23	9:35	Soil	BS23-58 2ft	1, 4oz jar	Ice	020	X	X					X			
12/15/23	9:40	Soil	BS23-59 2ft	1, 4oz jar	Ice	021	X	X					X			
12/15/23	9:45	Soil	BS23-60 2ft	1, 4oz jar	Ice	022	X	X					X			
12/15/23	9:50	Soil	BS23-61 2ft	1, 4oz jar	Ice	023	X	X					X			
12/15/23	9:55	Soil	BS23-62 2ft	1, 4oz jar	Ice	024	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/19	17:00				12/19/23	800
12/19/23	19a			courier	12/20/23	7:40

Remarks:

CC Chance Dixon and Fernando Rodriguez

Direct Bill to Silverback

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Chain-of-Custody Record

Client: **Silverback (Vertex)**

Mailing Address: **On File**

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☑ Rush 5 Day

Project Name: **Boyd Y Water Transfer**

Project #: **23E-05378**

Project Manager: **Chance Dixon**

Sampler: **Fernando Rodriguez**

On Ice: ☑ Yes ☐ No Morty

# of Coolers: 1

Cooler Temp(including CF): 4.5 +0 = 4.5 °C

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4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2312A97	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/15/23	10:00	Soil	BS23-63 2ft	1, 4oz jar	Ice	025	X	X					X			
12/15/23	10:05	Soil	BS23-64 2ft	1, 4oz jar	Ice	026	X	X					X			
12/15/23	10:10	Soil	BS23-65 2ft	1, 4oz jar	Ice	027	X	X					X			
12/15/23	10:15	Soil	BS23-66 2ft	1, 4oz jar	Ice	028	X	X					X			
12/15/23	10:20	Soil	BS23-67 2ft	1, 4oz jar	Ice	029	X	X					X			
12/15/23	10:25	Soil	BS23-68 2ft	1, 4oz jar	Ice	030	X	X					X			
12/15/23	10:30	Soil	BS23-69 2ft	1, 4oz jar	Ice	031	X	X					X			
12/15/23	10:35	Soil	BS23-70 2.5ft	1, 4oz jar	Ice	032	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/15	17:00				12/19/23	800
12/19/23	900			courier	12/20/23	7:40

Remarks:

CC Chance Dixon and Fernando Rodriguez

Direct Bill to Silverback

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.

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 307769

QUESTIONS

Operator: Silverback Operating II, LLC 19707 IH10 West, Suite 201 San Antonio, TX 78256	OGRID: 330968
	Action Number: 307769
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2326256394**
Incident Name	**NAPP2326256394 BOYD Y WATER TRANSFER LINE @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Boyd Y Water Transfer Line
Date Release Discovered	09/16/2023
Surface Owner	Private

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: Human Error | Fitting | Produced Water | Released: 0 BBL (Unknown Released Amount) | Recovered: 60 BBL | Lost: -60 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
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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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
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Santa Fe, NM 87505

QUESTIONS (continued)

Operator: Silverback Operating II, LLC 19707 IH10 West, Suite 201 San Antonio, TX 78256	OGRID: 330968
	Action Number: 307769
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more;** **(?) reported amounts release resulting in negative volume.**
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: Heather Treffert Title: Field Operations Analyst Email: htreffert@silverbackexp.com Date: 01/25/2024

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

Operator: Silverback Operating II, LLC 19707 IH10 West, Suite 201 San Antonio, TX 78256	OGRID: 330968
	Action Number: 307769
	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 75 and 100 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
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)	Between 1 and 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 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1000 (ft.) and ½ (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)	20000
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
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	12/04/2023
On what date will (or did) the final sampling or liner inspection occur	12/12/2023
On what date will (or was) the remediation complete(d)	12/15/2023
What is the estimated surface area (in square feet) that will be reclaimed	13645
What is the estimated volume (in cubic yards) that will be reclaimed	28590
What is the estimated surface area (in square feet) that will be remediated	13645
What is the estimated volume (in cubic yards) that will be remediated	28590
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 (continued)

Operator: Silverback Operating II, LLC 19707 IH10 West, Suite 201 San Antonio, TX 78256	OGRID: 330968
	Action Number: 307769
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	LEA LAND LANDFILL [fEEM0112342028]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	No
OR is the **off-site** disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
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 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: Heather Treffert Title: Field Operations Analyst Email: htreffert@silverbackexp.com Date: 01/25/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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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 (continued)

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QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**293847**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**12/15/2023**
What was the (estimated) number of samples that were to be gathered	**32**
What was the sampling surface area in square feet	**13645**

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	13645
What was the total volume (cubic yards) remediated	28590
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	13645
What was the total volume (in cubic yards) reclaimed	28590
Summarize any additional remediation activities not included by answers (above)	N/A

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: Heather Treffert Title: Field Operations Analyst Email: htreffert@silverbackexp.com Date: 01/25/2024

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QUESTIONS (continued)

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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 307769

CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2326256394 BOYD Y WATER TRANSFER LINE, thank you. This Remediation Closure Report is approved. 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.	4/2/2024
rhamlet	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. A revegetation report will not be accepted until the release area, including areas reasonably needed for production or drilling activities, are complete. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable. All revegetation activities will need to be documented and included in the revegetation report. The revegetation report will need to include: An executive summary of the revegetation activities including Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil.	4/2/2024
rhamlet	Information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved. OR Per 19.15.29.13 E. NMAC, if a reclamation and revegetation report has been submitted to the surface owner, it may be used if the requirements of the surface owner provide equal or better protection of freshwater, human health, and the environment. A copy of the approval of the reclamation and revegetation report from the surface owner and a copy of the approved reclamation and revegetation report will need to be submitted to the OCD via the Permitting website.	4/2/2024