Incident Number: nAPP2320940667

Release Assessment and Closure

Endurance Lariat Water Line

Unit G, Section 27, Township 25 South, Range 35 East

County: Lea

Vertex File Number: 24E-03247

Prepared for:
Solaris Water Midstream Company

Prepared by:
Vertex Resource Services Inc.

Date:
March 2025

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Release Assessment and Closure
Endurance Lariat Water Line
Unit G, Section 27, Township 25 South, Range 35 East
County: Lea

Prepared for:
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Carlsbad, New Mexico 88220

New Mexico Oil Conservation Division – District 1

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ENVIRONMENTAL TECHNICIAN, REPORTING

3/18/2025
Date

Chance Dixon
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PROJECT MANAGER, REPORT REVIEW

3/18/2025
Date

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1.0 Introduction

Solaris Water Midstream Company (Solaris) retained Vertex Resource Services Inc. (Vertex) to conduct a release assessment and closure for a produced water release that was discovered on July 27, 2023, at Endurance Lariat Water Line (hereafter referred to as the "site"). Solaris submitted an initial C-141 Release Notification to New Mexico Oil Conservation Division (NMOCD) on July 28, 2023. Incident ID number nAPP2320940667 was assigned to this incident. Delineation activities were begun by Paragon Environmental Construction, LLC. and completed by Vertex. A Remediation Plan was then submitted and approved by NMOCD on October 16, 2024.

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 the closure of this release, with the understanding that restoration of the release site was conducted in a manner to achieve the requirements of 19.15.29.13 NMAC.

2.0 Incident Description

The release was discovered on July 27, 2023, due to a failure of a buried underground polyline. The incident was reported on July 28, 2023, and involved the release of approximately 210 barrels (bbl.) of produced water into the pasture that runs parallel along the roadway. Approximately 40 bbl. of free fluid was 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 9 miles west of Jal, New Mexico (Google Inc., 2025). The legal location for the site is Unit G Section 27, Township 25 South and Range 35 East in Lea County, New Mexico. The release area is located on Bureau of Land Management (BLM) property. An aerial photograph and site schematic are presented on Figure 1.

The location is typical of water midstream sites in the Permian Basin and is currently being used for water transport. The following sections specifically describe the release area on or in proximity to the constructed pad and pipeline right-of-way (Figure 1).

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2025) indicates the site's surface geology primarily comprises Qep – interlayed eolian sands and piedmont-slope deposits. The soil at the site is characterized as Pyote and Maljamar fine sands (United States Department of Agriculture, Natural Resources Conservation Service, 2025). Additional soil characteristics include a drainage class of well drained with a runoff class of very low. The karst geology potential for the site is low (Geomatics; United States Department of the Interior, Bureau of Land Management, 2018).

The surrounding landscape is associated with uplands, plains, dunes, fan piedmonts and inter dunal areas with elevations ranging between 2,800 and 5,000 feet. The climate is semiarid with average annual precipitation totaling

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8 to 13 inches. According to the United States Department of Agriculture, the historical plant community is dominated by black grama, dropseeds, and bluestems with scattered shinnery oak and sand sage (United States Department of Agriculture, Natural Resources Conservation Service, 2025). Limited to no vegetation is allowed to grow on the access road.

4.0 Closure Criteria Determination

The depth to groundwater was determined by drilling a borehole permitted by the New Mexico Office of the State Engineer within a 0.5-mile radius of the site. The borehole was drilled to a depth of 105 feet and was left open as per requirements on the WR-07 Application for Permit to Drill a Well with No Water Right. An interface probe was lowered into the bottom of the borehole to investigate if groundwater may have accumulated during the 72-hour waiting period. No water was present at that time. The borehole was then plugged as per requirements on the WD-08, Well Plugging Plan of Operations. The documentation that was used is included in Appendix A.

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 a riverine (National Wetlands Inventory) located approximately 5,740 ft west of the site (United States Fish and Wildlife Service, 2025).

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.

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Table 1. Closure Criteria Determination			
Site Name: Endurance Lariat Water Line			
Spill Coordinates: 32.10449, -103.35432		**X: 655276.09**	**Y: 3553203.06**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	>105	feet
	Distance between release and nearest DTGW reference	872	feet
		0.17	miles
	Date of nearest DTGW reference measurement	**August 19, 2024**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	5,740	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	50,502	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	30,229	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**	80,774	feet
	ii) Within 1000 feet of any fresh water well or spring	80,774	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	14,467	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	187,001	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	166,926	feet
10	Within a 100-year Floodplain	500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	46,534	feet
11	Soil Type	PU	
12	Ecological Classification	Loamy Sandy	
13	Geology	Qep	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>100'	<50' 51-100' >100'

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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 > 100 feet (19.15.29.12)	Chloride	20,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

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

5.0 Remedial Actions Taken

Remediation efforts began on December 5, 2024, and were finalized on January 31, 2025. Vertex personnel supervised the excavation of impacted soils. Field screening was completed with a total of 207 sample points and consisted of analysis using the methods listed below:

- Photo Ionization Detector (volatile hydrocarbons)
- Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons)
- Hach Silver Nitrate (chlorides).

Field screening and laboratory results were used to identify areas requiring further remediation. Soils were removed to depths of 2 to 9 feet below ground surface (bgs). Confirmatory composite samples were collected from the base in 400 square foot increments and from the walls of the excavation in 200 square foot increments. A total of 68 base samples and 67 wall samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Eurofins and Cardinal Laboratories 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). Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Field screening and confirmatory sampling laboratory results are presented in Table 3. Wall samples that are not included in Table 3 were employed to incrementally adjust each wall until they met the specified criteria. The wall samples listed in Table 3 were then used for final confirmation. All confirmatory samples collected and analyzed were below the closure criteria for the site. Sample points BS25-56, BS25-57, and WS25-93 through WS25-97 were omitted from the project due to nomenclature errors during technical oversight. A Daily Field Report (DFR) and photographs documenting the final excavation before the backfill is presented in Appendix B. Confirmation laboratory results are presented in Appendix C.

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6.0 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 B.

6.1 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 matches that of the areas immediately surrounding the site, which consists of rangeland.

6.2 Restoration of Drainage

Currently, the site consists of a pasture area that slopes southward along the pipeline right-of-way. 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 to avoid caliche material from resurfacing. The decompaction was completed in the direction in which the area is sloped to ensure that future rainfall will be able to drain away from the site. All de-compaction activities were conducted post-backfill procedures and pre-seeding to maximize seed to soil contact and promote vegetation establishment.

6.3 Soil Replacement

Surface reclamation included determination of background topsoil depth as site conditions are required to meet pre-existing conditions. Reclamation of the location was completed after backfilling operations. Clean, locally sourced topsoil and caliche was imported to the site to backfill the excavation. The pasture areas were fenced with a 4-strand barbed wire fence.

6.4 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.

6.5 Re-vegetation

6.5.1 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. BLM #2 loamy seed mix consisting of Sand dropseed – 1.0 lb/acre, Sand love grass – 1.0lb/acre, Plains bristlegrass – 2.0lb/acre, 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. Photo documentation of the excavation area after backfill and seeding is included in Appendix B.

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6.5.2 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".

6.6 Weed Management

The site will be monitored for vegetative growth throughout the year. 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.

6.7 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.

During the bi-annual inspections, if the 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.

7.0 Closure Request

The release area was fully delineated, remediated, and 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. Laboratory analyses of confirmation samples collected at the site show final confirmatory values below NMOCD closure criteria for areas where depth to groundwater is less than 50 feet for the top 0-4 feet bgs and greater than 100 feet below 4 feet bgs as presented in Table 2. Final confirmatory values demonstrated that the excavation met NMOCD's closure criteria. There are no anticipated risks to human, ecological, or hydrological receptors at this site.

Based on these findings, Vertex recommends no additional action to the site and requests that this incident (nAPP2320940667) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Solaris certifies that all information in this report and the appendices is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the site.

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

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8.0 References

Google Inc. (2025). *Google Earth Pro (Version 7.3.3)* [Software]. Retrieved from https://earth.google.com

New Mexico Bureau of Geology and Mineral Resources. (2025). *Interactive Geologic Map*. Retrieved from https://maps.nmt.edu/.

New Mexico Department of Surface Water Quality Bureau. (2025). *Assessed and Impaired Waters of New Mexico*. Retrieved from https://gis.web.env.nm.gov/oem/?map=swqb

New Mexico Energy, Minerals and Natural Resources Department. (2025). *OCD Permitting - Spill Search*. Retrieved from https://wwwapps.emnrd.nm.gov/ocd/ocdpermitting/Data/Spills/Spills.aspx

New Mexico Mining and Minerals Division. (2025). *Coal Mine Resources in New Mexico*. Retrieved from https://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=5f80f3b0faa545e58fe747cc7b037a93

New Mexico Office of the State Engineer. (2025a). *Point of Diversion Location Report - New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/wellSurfaceDiversion.html

New Mexico Office of the State Engineer. (2025b). *Water Column/Average Depth to Water Report - New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html

New Mexico Office of the State Engineer. (2025c). *Well Log/Meter Information Report - New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/meterReport.html

New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code – Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.

United States Department of Agriculture, Natural Resources Conservation Service. (2025). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

United States Department of Homeland Security, Federal Emergency Management Agency. (2025). *FEMA Flood Map Service: Search by Address*. Retrieved from https://msc.fema.gov/portal/search?AddressQuery=malaga%20new%20mexico#searchresultsanchor

United States Department of the Interior, Bureau of Land Management. (2018). *New Mexico Cave/Karst*. Retrieved from https://www.nm.blm.gov/shapeFiles/cfo/carlsbad_spatial_data.html

United States Department of the Interior, Bureau of Land Management. (2025). *The Gold Book.*

United States Fish and Wildlife Service. (2025). *National Wetland Inventory - Surface Waters and Wetlands*. Retrieved from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

United States Geological Survey. (2025). *National Water Information System: Web Interface*. Retrieved from https://waterdata.usgs.gov/nwis.

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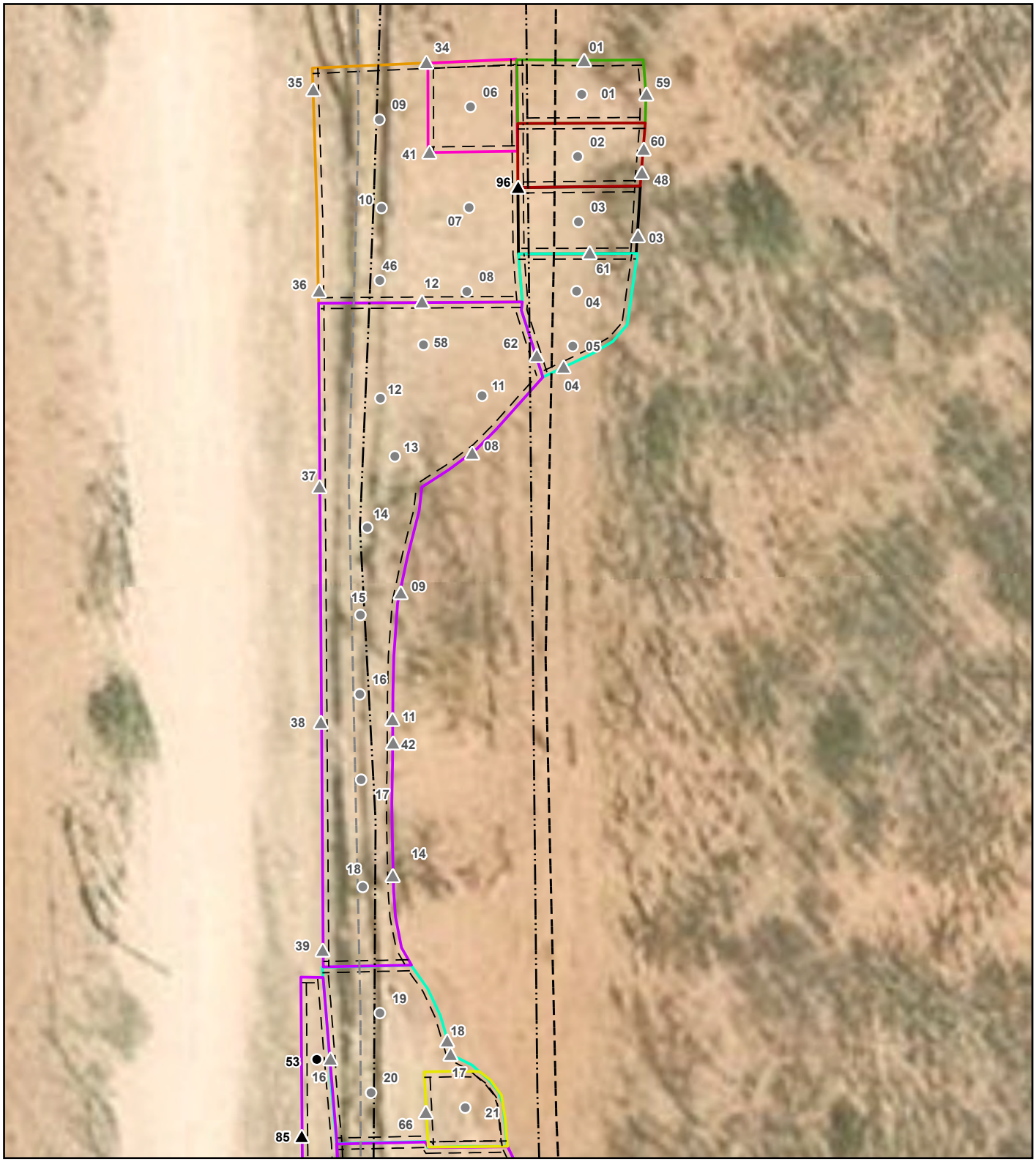
9.0 Limitations

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

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

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FIGURE



- Historical Base Sample (Prefixed by "BS24-")
- Base Sample (Prefixed by "BS25-")
- Historical Wall Sample (Prefixed by "WS24-")
- Wall Sample (Prefixed by "WS25-")
- Former Pipeline (Aboveground)
- Pipeline (Aboveground)
- Pipeline (Underground)
- Excavation to 2' (~ 399 sq. ft. | 80 ft.)
- Excavation to 4' (~ 3,525 sq. ft. | 374 ft.)
- Excavation to 4.5' (~ 2,389 sq. ft. | 197 ft.)
- Excavation to 5' (~ 1,736 sq. ft. | 239 ft.)
- Excavation to 6' (~ 278 sq. ft. | 65 ft.)
- Excavation to 7' (~ 396 sq. ft. | 83 ft.)
- Excavation to 8' (~ 399 sq. ft. | 85 ft.)
- Excavation to 9' (~ 392 sq. ft. | 84 ft.)

VERTEX

0 5 10 20 ft

NAD 1983 UTM Zone 13N
Date: Feb 06/25

Map Center:
Lat: 32.105256°N,
Long:103.355001°W

N

Confirmation Schematic
Endurance Lariat Water Line

FIGURE: 2a

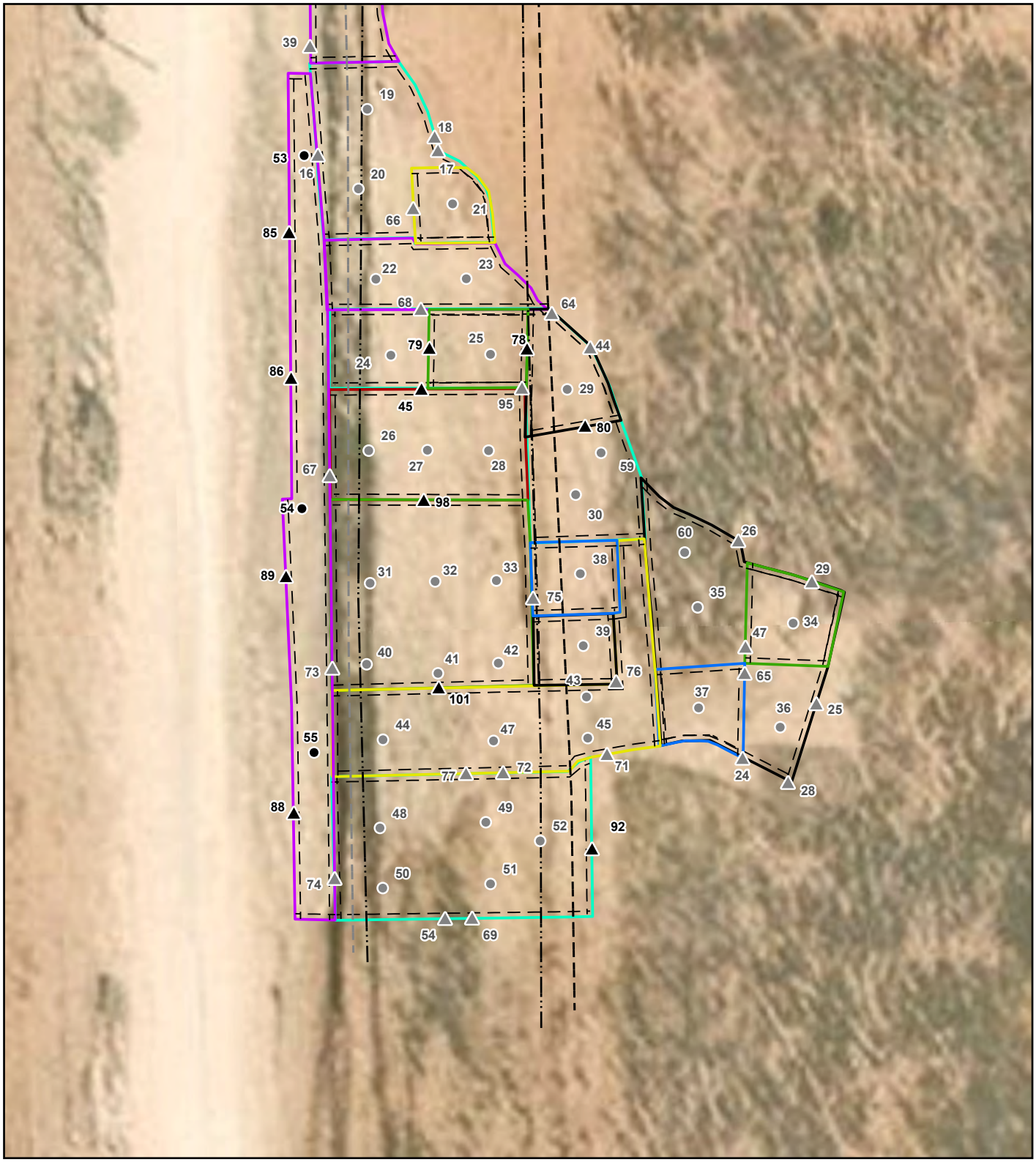
SOLARIS WATER MIDSTREAM

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Note: Georeferenced image from Esri, 2023. Site features from GPS by Vertex Professionals Services Ltd., 2025.

VERSATILITY. EXPERTISE.



- Historical Base Sample (Prefixed by "BS24-")
- Base Sample (Prefixed by "BS25-")
- Historical Wall Sample (Prefixed by "WS24-")
- Wall Sample (Prefixed by "WS25-")
- Former Pipeline (Aboveground)
- Pipeline (Aboveground)
- Pipeline (Underground)
- Excavation to 4' bgs (~ 2,188 sq. ft. | 225 ft.)
- Excavation to 5' bgs (~ 3,656 sq. ft. | 137 ft.)
- Excavation to 6' bgs (~ 1,551 sq. ft. | 242 ft.)
- Excavation to 7'bgs (~ 2,500 sq. ft. | 342 ft.)
- Excavation to 8' bgs (~ 2,646 sq. ft. | 331 ft.)
- Excavation to 8.5' bgs (~ 654 sq.ft. | 149 ft.)
- Excavation to 9' bgs (~ 1,073 sq. ft. | 137 ft.)

VERTEX

0 5 10 20 ft
NAD 1983 UTM Zone 13N
Date: Feb 08/25

Map Center:
Lat: 32.104704°N,
Long:103.355002°W

N

Confirmation Schematic
Endurance Lariat Water Line

FIGURE: **2b**

SOLARIS WATER MIDSTREAM

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Note: Georeferenced image from Esri, 2023. Site features from GPS by Vertex Professionals Services Ltd., 2025.

VERSATILITY. EXPERTISE.

TABLE

Client Name: Solaris
Site Name: Endurance Lariat Water Line
NMOCD Tracking #: nAPP2320940667
Project #: 24E-003247
Lab Reports: 885-16614-1, 855-16872-1, 855-17036-1, 855-17188-1, 855-17178-1, 885-17317-, 855-17201-1, 855-17492-1, 885-17658-1, 885-17861, 855-17863-1, 8
855-18119-1, 885-18236-1, 855-18235-1, 885-18357-1, 855-18358-1,885-18377-1, 885-18631-1, 885-18632-1, H250412, H250548, H250586

Table 3. Confirmatory Sample Field Screen and Laboratory Results

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)
			Depth to Groundwater >100										
BS24-01	5	December 5, 2024	-	**2,580**	260	-	-	-	-	-	-	-	-
	6	December 30, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	8	December 30, 2024	-	**1,113**	580	ND	3.32	68	850	330	918	1,248	430
BS24-02	5	December 5, 2024	-	**3,230**	668	-	-	-	-	-	-	-	-
	6	December 30, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	8	December 30, 2024	-	**1,240**	1,708	0.19	40.89	580	1,400	660	**1,980**	**2,640**	1,300
	9	January 9, 2025	-	178	1,025	ND	ND	ND	59	ND	59	59	1,100
BS24-03	5	December 5, 2024	-	**3,310**	625	-	-	-	-	-	-	-	-
	6	December 30, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	7	December 30, 2024	-	841	513	ND	1.43	48	710	330	758	1,088	420
BS24-04	5	December 6, 2024	-	68	238	ND	ND	ND	ND	ND	ND	ND	130
BS24-05	5	December 6, 2024	-	6	175	ND	ND	ND	ND	ND	ND	ND	100
BS24-06	2	December 13, 2024	-	17	40	ND	ND	ND	ND	ND	ND	ND	ND
BS24-07	2	December 13, 2024	-	**2,000**	**1,053**	-	-	-	-	-	-	-	-
	3.5	December 31, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	4.5	January 1, 2025	-	470	1,460	ND	ND	ND	500	220	500	720	1,400
BS24-08	2	December 13, 2024	-	**2,000**	**1,928**	-	-	-	-	-	-	-	-
	3.5	December 31, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	4.5	January 1, 2025	-	364	973	ND	ND	ND	350	170	350	520	780
BS24-09	2	December 13, 2024	-	**2,000**	**660**	-	-	-	-	-	-	-	-
	3.5	December 31, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	4.5	January 1, 2025	-	239	1,053	ND	ND	7	230	110	237	347	840
BS24-10	2	December 17, 2024	-	**1,279**	**545**	-	-	-	-	-	-	-	-
	3.5	December 31, 2024	-	**529**	-	-	-	-	-	-	-	-	-
	4.5	January 1, 2025	-	373	2,498	ND	ND	ND	130	75	130	205	2,300
BS24-11	4	December 12, 2024	-	9	38	ND	ND	ND	ND	ND	ND	ND	ND
BS24-12	4	December 9, 2024	-	184	498	ND	ND	ND	110	62	110	172	340
BS24-13	4	December 9, 2024	-	172	1,370	ND	ND	ND	70	ND	70	70	1,200
BS24-14	4	December 9, 2024	-	10	420	ND	ND	ND	ND	ND	ND	ND	290
BS24-15	4	December 9, 2024	-	39	285	ND	ND	ND	ND	ND	ND	ND	170
BS24-16	2	December 6, 2024	-	**994**	448	-	-	-	-	-	-	-	-
	3	December 30, 2024	-	**377**	-	-	-	-	-	-	-	-	-
	4	December 31, 2024	-	38	365	ND	ND	ND	10	ND	10	10	280
BS24-17	2	December 6, 2024	-	-	**745**	-	-	-	-	-	-	-	-
	3	December 30, 2024	-	**1,070**	-	-	-	-	-	-	-	-	-
	4	December 31, 2024	-	73	263	ND	ND	ND	24	ND	24	24	240
BS24-18	4	December 10, 2024	-	0	248	ND	ND	ND	ND	ND	ND	ND	180
BS24-19	5	December 10, 2024	-	10	2,400	ND	ND	ND	ND	ND	ND	ND	2,300
BS24-20	5	December 10, 2024	-	0	3,988	ND	ND	ND	31	ND	31	31	3,900
BS24-21	5	December 17, 2024	-	775	8,740	ND	0.10	30	1,100	460	**1,130**	1,590	5,300
	6	January 7, 2025	-	3	5,038	ND	ND	ND	ND	ND	ND	ND	5,300
BS24-22	4	December 31, 2024	-	464	3,980	ND	ND	ND	210	120	210	330	3,900
BS24-23	4	December 13, 2024	-	390	4,603	ND	ND	ND	100	ND	100	100	4,800
BS24-24	4	December 13, 2024	-	**3,300**	5,168	-	-	-	-	-	-	-	-
	4.5	December 31, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	5	January 3, 2025	-	670	4,863	ND	0.21	23	360	180	383	563	5,700
BS24-25	4	December 13, 2024	-	**2,140**	2,105	-	-	-	-	-	-	-	-
	4.5	December 31, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	5	January 3, 2025	-	**1,191**	5,340	ND	0.51	31	1,300	490	**1,331**	1,821	5,900
	8	January 13, 2024	-	96	3,030	ND	0.80	11	140	110	151	261	100
BS24-26	9	December 16, 2024	-	30	8,915	ND	ND	ND	ND	ND	ND	ND	7,000
BS24-27	9	December 16, 2024	-	69	8,710	ND	ND	ND	20	ND	20	20	8,000
BS24-28	9	December 16, 2024	-	70	3,440	ND	ND	ND	ND	ND	ND	ND	4,700

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855-18119-1, 885-18236-1, 855-18235-1, 885-18357-1, 855-18358-1,885-18377-1, 885-18631-1, 885-18632-1, H250412, H250548, H250586

Table 3. Confirmatory Sample Field Screen and Laboratory Results

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)
			Depth to Groundwater >100										
BS24-29	4	December 13, 2024	-	**2,570**	1,908	-	-	-	-	-	-	-	-
	5	January 3, 2025	-	**1,222**	693	ND	1.23	37	1,000	440	**1,037**	1,477	550
	7	January 13, 2025	-	1,232	1,070	ND	1.18	18	210	100	228	328	140
BS24-30	4	December 16, 2024	-	**1,184**	833	ND	6.41	130	3,200	1,100	**3,330**	**4,430**	590
	5	January 2, 2025	-	**1,110**	883	ND	1.01	39	890	390	929	1,319	390
BS24-31	4	December 16, 2024	-	**1,055**	2,023	ND	1.07	65	1,100	510	**1,165**	1,675	2,300
	6.5	December 31, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	8	January 2, 2025	-	52	5,215	ND	ND	ND	ND	ND	ND	ND	4,800
BS24-32	4	December 16, 2024	-	**1,116**	6,960	ND	13.57	250	3,500	1,100	**3,750**	**4,850**	6,100
	6.5	December 31, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	8	January 3, 2025	-	**2,000**	-	ND	2.21	56	760	300	816	1,116	900
BS24-33	4	December 16, 2024	-	**1,174**	3,020	ND	7.06	120	3,400	1,200	**3,520**	**4,720**	5,100
	6.5	December 31, 2024	-	**2,000**	-	-	-	-	-	-	-	-	-
	8	January 3, 2025	-	**2,000**	-	ND	3.06	81	820	320	901	1,221	820
BS24-34	7	December 19, 2024	-	**1,149**	-	-	-	-	-	-	-	-	-
	8	January 1, 2025	-	14	118	ND	ND	ND	ND	ND	ND	ND	ND
BS24-35	7	December 19, 2024	-	32	-	ND	ND	ND	ND	53	ND	53	380
BS24-36	7	December 19, 2024	-	**1,030**	-	ND	ND	ND	570	250	570	820	100
BS24-37	7	December 19, 2024	-	390	-	ND	3.74	65	2,200	1,000	**2,265**	**3,265**	80
	8	January 7, 2025	-	**2,000**	-	-	-	-	-	-	-	-	-
	8.5	January 7, 2025	-	0	43	ND	ND	ND	ND	ND	ND	ND	ND
BS24-38	4	December 20, 2024	-	722	720	ND	0.64	9	850	400	859	1,259	460
	8	January 28, 2025	-	**2,000**	5,980	ND	15.20	336	1,500	220	**1,836**	2,056	2,680
	8.5	January 31, 2025				ND	ND	ND	269	63	269	332	384
BS24-39	4	December 20, 2024	-	**1,209**	-	-	-	-	-	-	-	-	-
	6	January 3, 2025	-	**1,239**	3,335	ND	1.66	47	1,500	680	**1,547**	**2,227**	3,700
	7	January 13, 2025	-	1,080	6,690	ND	0.61	12	160	98	172	270	150
BS24-40	6.5	December 20, 2024	-	375	4,495	ND	ND	ND	540	290	540	830	3,000
	8	January 21, 2024	-	668	1,430	ND	ND	ND	455	68	455	523	4,880
BS24-41	6.5	December 20, 2024	-	**1,101**		-	-	-	-	-	-	-	-
	8	January 3, 2025	-	168	5,933	ND	ND	ND	42	ND	42	42	6,900
BS24-42	6.5	December 20, 2024	-	**1,112**	-	-	-	-	-	-	-	-	-
	8	January 3, 2025	-	**2,000**	-	ND	ND	ND	ND	ND	ND	ND	ND
BS24-43	4	December 20, 2024	-	**1,191**	-	-	-	-	-	-	-	-	-
	6	January 3, 2025	-	**2,000**	-	ND	4.40	100	860	320	960	1,280	850
BS24-44	4	December 20, 2024	-	**1,236**	-	-	-	-	-	-	-	-	-
	6	January 6, 2025	-	998	6,055	ND	0.29	60	800	300	860	1,160	6,800
BS24-45	4	December 20, 2024	-	**1,221**	-	-	-	-	-	-	-	-	-
	6	January 3, 2025	-	**2,000**	-	ND	2.84	62	620	230	682	912	660
BS24-46	4.5	January 2, 2025	-	594	1,945	ND	ND	7	230	110	237	347	1,900
BS24-47	6	January 6, 2025	-	**2,000**									
BS24-48	5	January 10, 2025	-	**1,221**	-	ND	0.34	30	380	430	410	840	360
BS24-49	5	January 10, 2025	-	**1,160**	-	ND	0.16	20	360	440	380	820	370
BS24-50	5	January 10, 2025	-	821	2,065	ND	0.13	18	280	420	298	718	250
BS24-51	5	January 10, 2025	-	715	110	ND	0.24	21	430	470	451	921	400
BS24-52	5	January 10, 2025	-	33	-	ND	0.10	12	310	420	322	742	210
BS25-53	4	January 16, 2025	-	318	383	ND	ND	ND	30	ND	30	30	300
BS25-54	4	January 16, 2025	-	20	250	ND	ND	ND	ND	ND	ND	ND	ND
BS25-55	4	January 16, 2025	-	86	350	ND	ND	ND	ND	ND	ND	ND	ND
BS25-58	4	January 21, 2025	-	413	1,380	ND	ND	ND	222	43	222	265	896
BS25-59	5	January 21, 2025	-	989	1,660	ND	1.02	12	248	30	260	290	464
BS25-60	7	January 21, 2025	-	1,221	1,550	ND	ND	ND	723	141	723	864	672

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Table 3. Confirmatory Sample Field Screen and Laboratory Results

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)
			Depth to Groundwater >100										
WS24-01	0-5	December 6, 2024	-	80	125	ND	ND	ND	ND	ND	ND	ND	72
~~WS24-02~~	~~0-5~~	~~December 6, 2024~~	-	~~739~~	~~165~~	-	-	-	-	-	-	-	-
WS24-03	0-5	December 6, 2024	-	10	190	ND	ND	ND	ND	ND	ND	ND	130
WS24-04	0-5	December 12, 2024	-	10	178	ND	ND	ND	ND	ND	ND	ND	100
~~WS24-05~~	~~0-2~~	~~December 17, 2024~~	-	~~1,037~~	~~360~~	-	-	-	-	-	-	-	-
~~WS24-07~~	~~0-4~~	~~December 12, 2024~~	-	-	~~1,075~~	-	-	-	-	-	-	-	-
WS24-08	0-4	December 12, 2024	-	4	50	ND	ND	ND	ND	ND	ND	ND	ND
WS24-09	0-4	December 12, 2024	-	1	30	ND	ND	ND	ND	ND	ND	ND	ND
~~WS24-10~~	~~0-2~~	~~December 16, 2024~~	-	-	~~1,745~~	~~ND~~	~~ND~~	~~9~~	~~1,600~~	~~710~~	~~169~~	~~2,319~~	~~1,000~~
WS24-11	0-2	December 6, 2024	-	6	63	ND	ND	ND	ND	ND	ND	ND	ND
WS24-12	4-4.5	January 9, 2025	-	195	623	ND	ND	ND	77	58	77	135	520
~~WS24-13~~	~~0-4~~	~~December 16, 2024~~	-	-	~~2,738~~	~~ND~~	~~ND~~	~~8~~	~~2,100~~	~~1,100~~	~~2,108~~	~~3,208~~	~~920~~
WS24-14	0-4	December 11, 2024	-	6	30	ND	ND	ND	ND	ND	ND	ND	ND
~~WS24-15~~	~~0-4~~	~~December 16, 2024~~	-	-	~~1,943~~	~~ND~~	~~ND~~	~~ND~~	~~80~~	~~95~~	~~80~~	~~175~~	~~2,400~~
WS24-16	4-5	December 13, 2024	-	76	9,863	ND	ND	ND	ND	ND	ND	ND	10,000
WS24-17	0-4	December 13, 2024	-	24	53	ND	ND	ND	ND	ND	ND	ND	ND
WS24-18	4-5	December 17, 2024	-	11	80	ND	ND	ND	ND	ND	ND	ND	ND
~~WS24-19~~	~~0-4~~	~~December 16, 2024~~	-	-	-	~~ND~~	~~ND~~	~~ND~~	~~1,100~~	~~580~~	~~1,100~~	~~1,680~~	~~2,200~~
~~WS24-20~~	~~0-4~~	~~December 16, 2024~~	-	-	-	~~ND~~	~~ND~~	~~9~~	~~750~~	~~350~~	~~759~~	~~1,109~~	~~5,900~~
~~WS24-21~~	~~4-9~~	~~December 20, 2024~~	-	~~964~~	~~5,915~~	~~ND~~	~~1.01~~	~~30~~	~~1,100~~	~~460~~	~~1,130~~	~~1,590~~	~~5,300~~
~~WS24-22~~	~~4-9~~	~~December 17, 2024~~	-	~~1,272~~	~~4,600~~	-	-	-	-	-	-	-	-
~~WS24-23~~	~~0-4~~	~~December 17, 2024~~	-	~~757~~	~~270~~	-	-	-	-	-	-	-	-
WS24-24	0-4	December 19, 2024	-	931	-	-	-	-	-	-	-	-	-
	0-4	December 19, 2024	-	45	70	ND	ND	ND	12	ND	12	12	ND
WS24-25	0-4	December 19, 2024	-	11	78	ND	ND	ND	ND	ND	ND	ND	ND
WS24-26	0-4	December 19, 2024	-	16	-	ND	ND	ND	ND	ND	ND	ND	ND
~~WS24-27~~	~~4-7~~	~~December 19, 2024~~	-	~~1,114~~	-	-	-	-	-	-	-	-	-
WS24-28	4-7	December 19, 2024	-	775	-	ND	1.13	36	950	470	986	1,456	69
WS24-29	4-7	December 19, 2024	-	26	-	ND	ND	ND	ND	49	ND	49	ND
~~WS24-30~~	~~0-4~~	~~December 19, 2024~~	-	~~1,130~~	~~2,000~~	-	-	-	-	-	-	-	-
~~WS24-31~~	~~4-6.5~~	~~December 19, 2024~~	-	~~889~~	-	~~ND~~	~~1.10~~	~~70~~	~~1,400~~	~~560~~	~~1,470~~	~~2,030~~	~~2,500~~
~~WS24-32~~	~~0-4~~	~~December 20, 2024~~	-	~~1,264~~	-	-	-	-	-	-	-	-	-
~~WS24-33~~	~~4-6.5~~	~~December 20, 2024~~	-	~~1,264~~	-	-	-	-	-	-	-	-	-
WS24-34	0-2	January 1, 2025	-	8	25	ND	ND	ND	ND	ND	ND	ND	ND
WS24-35	0-4.5	January 1, 2025	-	24	263	ND	ND	ND	ND	ND	ND	ND	180
WS24-36	0-4.5	January 1, 2025	-	26	370	ND	ND	ND	ND	ND	ND	ND	230
WS24-37	0-4	January 2, 2025	-	17	160	ND	ND	ND	ND	ND	ND	ND	110
WS24-38	0-4	January 2, 2025	-	15	1,875	ND	ND	ND	ND	ND	ND	ND	200
WS24-39	0-4	January 2, 2025	-	69	1,373	ND	ND	ND	ND	ND	ND	ND	ND
~~WS24-40~~	~~0-4~~	~~January 2, 2025~~	-	~~225~~	~~193~~	-	-	-	-	-	-	-	-
WS24-41	2-4.5	January 2, 2025	-	57	118	ND	ND	ND	ND	ND	ND	ND	83
WS24-42	2-4	January 2, 2025	-	10	40	ND	ND	ND	ND	ND	ND	ND	ND
~~WS24-43~~	~~7-8~~	~~January 6, 2025~~	-	~~1,345~~	~~93~~	-	-	-	-	-	-	-	-
WS24-44	0-5	January 6, 2025	-	7	88	ND	ND	ND	ND	ND	ND	ND	ND
WS24-45	5-9	January 6, 2025	-	1,240	3,240	ND	1.91	52	940	340	992	1,332	3,400
~~WS24-46~~	~~0-4~~	~~January 6, 2025~~	-	~~2,000~~	-	-	-	-	-	-	-	-	-
WS24-47	7-8	January 6, 2025	-	683	95	ND	1.52	32	760	310	792	1,102	ND
WS24-48	0-4	January 6, 2025	-	2	68	ND	ND	ND	ND	ND	ND	ND	ND
~~WS24-49~~	~~0-4~~	~~January 7, 2025~~	-	~~2,000~~	-	-	-	-	-	-	-	-	-
~~WS24-50~~	~~0-4~~	~~January 7, 2025~~	-	~~1,286~~	-	-	-	-	-	-	-	-	-
~~WS24-51~~	~~0-4~~	~~January 7, 2025~~	-	~~699~~	-	-	-	-	-	-	-	-	-
~~WS24-52~~	~~0-4~~	~~January 8, 2025~~	-	~~839~~	-	-	-	-	-	-	-	-	-
~~WS24-53~~	~~0-4~~	~~January 8, 2025~~	-	~~957~~	-	-	-	-	-	-	-	-	-
WS24-54	0-4	January 8, 2025	-	15	50	ND	ND	ND	ND	ND	ND	ND	ND
~~WS24-55~~	~~0-4~~	~~January 8, 2025~~	-	~~87~~	~~1,473~~	~~ND~~	~~ND~~	~~ND~~	~~ND~~	~~ND~~	~~ND~~	~~ND~~	~~1,200~~
~~WS24-56~~	~~0-4~~	~~January 8, 2025~~	-	~~2,000~~	~~3,073~~	~~ND~~	~~ND~~	~~5~~	~~1,100~~	~~600~~	~~1,105~~	~~1,705~~	~~2,900~~
~~WS24-57~~	~~0-4~~	~~January 8, 2025~~	-	~~2,000~~	~~2,453~~	~~ND~~	~~0.28~~	~~52~~	~~2,900~~	~~1,500~~	~~2,952~~	~~3,452~~	~~2,200~~
~~WS24-58~~	~~0-4~~	~~January 8, 2025~~	-	~~2,000~~	~~2,685~~	~~ND~~	~~3.74~~	~~140~~	~~2,900~~	~~1,200~~	~~3,040~~	~~4,240~~	~~2,300~~
WS24-59	4-8	January 9, 2025	-	145	348	ND	ND	ND	47	ND	47	47	240

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Table 3. Confirmatory Sample Field Screen and Laboratory Results

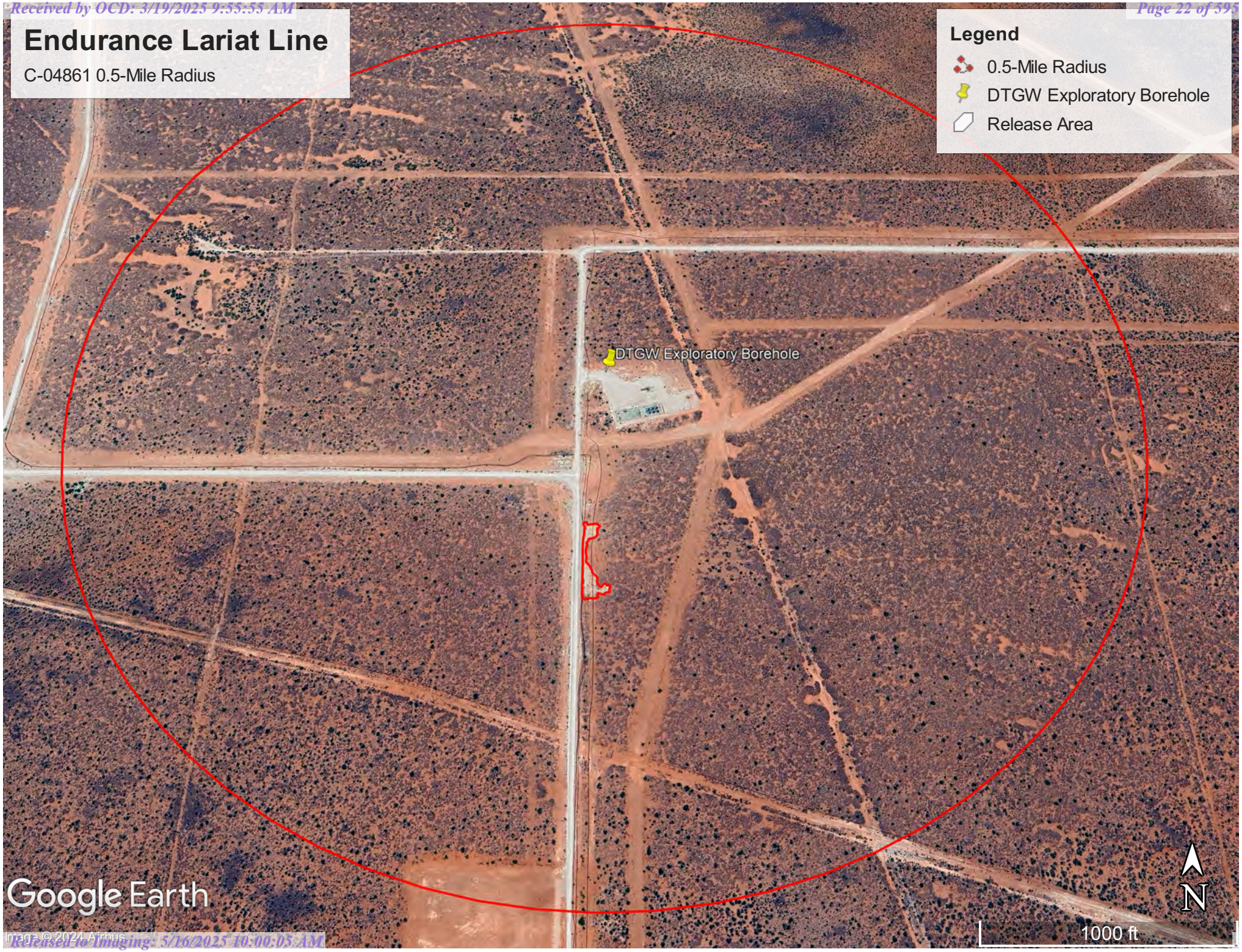
Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range 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)
			Depth to Groundwater >100										
WS24-60	4-9	January 9, 2025	-	27	1,405	ND	ND	ND	ND	ND	ND	ND	1,200
WS24-61	4-7	January 9, 2025	-	718	140	ND	ND	ND	530	370	530	900	74
WS24-62	4-5	January 9, 2025	-	19	58	ND	ND	ND	ND	ND	ND	ND	61
~~WS24-63~~	~~6.5-8~~	~~January 9, 2025~~	-	~~1,101~~	-	~~ND~~	~~0.18~~	~~27~~	~~1,400~~	~~850~~	~~1,427~~	~~2,277~~	~~5,300~~
WS24-64	5-8	January 13, 2025	-	1,270	3,390	ND	1.15	20	410	240	430	670	310
WS24-65	7-8.5	January 9, 2025	-	41	120	ND	ND	ND	17	ND	17	17	ND
WS24-66	4-6	January 10, 2025	-	63	2,425	ND	0.09	11	450	400	461	861	320
WS24-67	4-9	January 10, 2025	-	644	7,733	ND	0.21	17	300	370	317	687	530
WS24-68	4-5	January 10, 2025	-	303	1,950	ND	0.11	11	370	410	381	791	210
WS24-69	4-5	January 10, 2025	-	95	-	ND	0.28	26	440	510	466	976	360
~~WS24-70~~	~~0-4~~	~~January 13, 2025~~	-	~~102~~	~~572~~	~~ND~~	~~1.62~~	~~22~~	~~310~~	~~170~~	~~332~~	~~502~~	~~680~~
WS24-71	4-6	January 13, 2025	-	1,225	380	ND	0.44	9	140	92	149	241	130
WS24-72	4-6	January 10, 2025	-	1,110	-	ND	0.29	23	480	640	503	1,143	450
WS24-73	4-8	January 10, 2025	-	2,000	-	ND	0.25	21	460	360	481	841	400
WS24-74	4-5	January 10, 2025	-	2,000	-	ND	0.31	24	410	510	434	944	350
WS24-75	4-8	January 10, 2025	-	2,000	-	ND	0.57	43	750	610	793	1,403	600
WS24-76	6-7	January 13, 2025	-	1,212	4,340	ND	0.43	8	51	63	59	122	ND
WS24-77	5-6	January 13, 2025	-	1,050	6,370	ND	1.18	19	470	240	489	729	280
WS25-78	4-8	January 15, 2025	-	931	895	ND	ND	ND	240	150	240	390	260
WS25-79	5.5-8	January 15, 2025	-	453	3,198	ND	ND	ND	68	85	68	153	82
WS25-80	5.5-7	January 15, 2025	-	1,181	1,975	ND	ND	ND	260	160	260	420	160
~~WS25-81~~	~~0-4~~	~~January 22, 2025~~	-	~~179~~	-	-	-	-	-	-	-	-	-
~~WS25-82~~	~~0-4~~	~~January 22, 2025~~	-	~~848~~	-	-	-	-	-	-	-	-	-
~~WS25-83~~	~~0-4~~	~~January 22, 2025~~	-	~~1,088~~	-	-	-	-	-	-	-	-	-
~~WS25-84~~	~~0-4~~	~~January 22, 2025~~	-	~~502~~	-	-	-	-	-	-	-	-	-
WS25-85	0-4	January 16, 2025	-	10	88	ND	ND	ND	ND	ND	ND	ND	ND
WS25-86	0-4	January 16, 2025	-	18	58	ND	ND	ND	ND	ND	ND	ND	ND
~~WS25-87~~	~~0-4~~	~~January 16, 2025~~	-	~~238~~	~~72~~	-	-	-	-	-	-	-	-
WS25-88	0-4	January 16, 2025	-	29	40	ND	ND	ND	ND	ND	ND	ND	ND
WS25-89	0-4	January 16, 2025	-	42	140	ND	ND	ND	ND	ND	ND	ND	80
~~WS25-90~~	~~0-4~~	~~January 21, 2025~~	-	~~1,330~~	-	-	-	-	-	-	-	-	-
~~WS25-91~~	~~0-4~~	~~January 22, 2025~~	-	~~242~~	~~1,770~~	-	-	-	-	-	-	-	-
WS25-92	0-4	January 22, 2025	-	19	130	ND	ND	ND	ND	ND	ND	ND	16
WS25-98	8-9	January 28, 2025	-	506	9,515	ND	1	25	319	44	344	388	4400
~~WS25-99~~	~~6-8~~	~~January 28, 2025~~	-	~~1,301~~	~~6,600~~	-	-	-	-	-	-	-	-
~~WS25-100~~	~~6-8~~	~~January 28, 2025~~	-	~~240~~	~~11,229~~	~~ND~~	~~20~~	~~414~~	~~1,600~~	~~236~~	~~2,014~~	~~2,250~~	~~3000~~
WS25-101	6-8	January 31, 2025	-	529	520	ND	ND	ND	328	80	328	408	544

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and green shaded indicates exceedance outside of NMOCD Closure Criteria

APPENDIX A – Closure Criteria Research Documentation

Endurance Lariat Line

C-04861 0.5-Mile Radius



PLUGGING RECORD

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

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-04861 POD1

Well owner: Solaris water midstream Company Phone No.: _____

Mailing address: 3300 N.A. St. Bldg6, Unit 6

City: Midland State: TX Zip code: 79705

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Vision Resources

2) New Mexico Well Driller License No.: 1833 Expiration Date: 10-7-25

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Jason Maley

4) Date well plugging began: 8-19-24 Date well plugging concluded: 8-19-24

5) GPS Well Location: Latitude: 32 deg, 6 min, 28.5 sec
Longitude: -103 deg, 21 min, 14.48 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 105' ft below ground level (bgl), by the following manner: Tape

7) Static water level measured at initiation of plugging: N/A ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 7-20-24

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

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

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
0		155	155	Tremie pipe Open Hole	
	Wyoming Bentonite				
105'					

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

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

Signature of Well Driller

8/26/24
Date

Version: September 8, 2009
Page 2 of 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
C 04861 - POD1		C-4861

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Solaris Water Midstream Company	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
3300 N.A. St. Bldg6, Unit 6	Midland	TX	79705

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	6	28.5	N
	LONGITUDE	-103	21	14.48	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1833	Jason Maley	Vision Resources

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
8-14-24	8-14-24	105'	105'	N/A

COMPLETED WELL IS: ☐ ARTESIAN *add Centralizer info below ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 0'

DATE STATIC MEASURED: 8-14-24

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	95	6"	PVC 2" SCH40	Thread	2"	SCH40	N/A
95	105	6"	PVC 2" SCH40	Thread	2"	SCH40	.02

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL *(if using Centralizers for Artesian wells- indicate the spacing below)	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			None pulled and plugged		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	30	30'	Small Tan sand with white caliche rock	Y ✓ N	
30	50	20'	Red and Brown clay with small caliche rock	Y ✓ N	
50	105	55'	Gray Clay with caliche rock	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY: Dry hole

TOTAL ESTIMATED WELL YIELD (gpm): 0

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Jason Maley

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jason Maley

SIGNATURE OF DRILLER / PRINT SIGNEE NAME

8/26/24

DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

Received by OCD: 3/19/2025 9:55:55 AM

U.S. Fish and Wildlife Service
National Wetlands Inventory

Distance from release to water Course 574



June 26, 2024

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

Released to Imaging: 5/16/2025 10:00:05 AM

Received by OCD: 3/19/2025 9:55:55 AM

U.S. Fish and Wildlife Service

National Wetlands Inventory

Play Lake 50,502 ft



June 26, 2024

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.

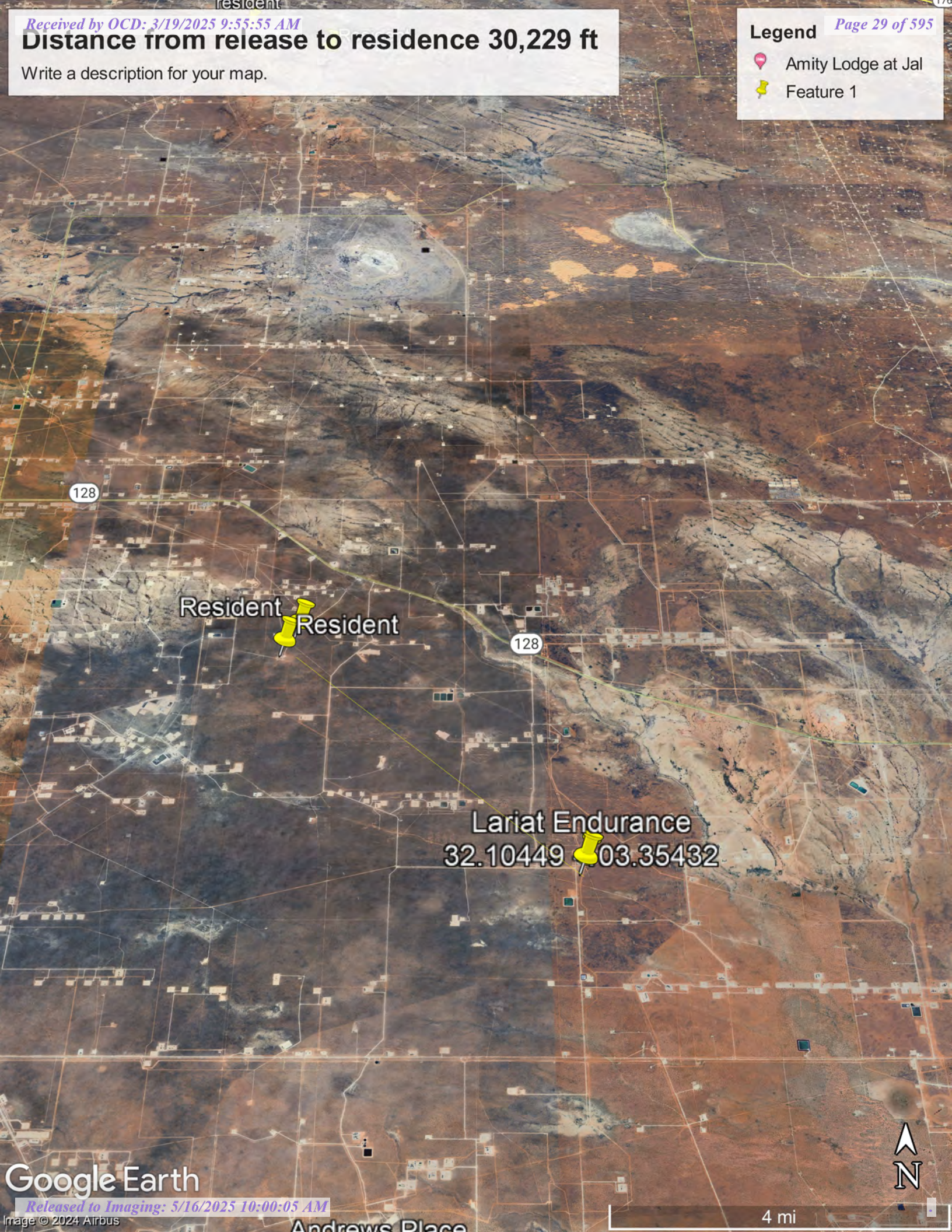
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Released to Imaging: 5/16/2025 10:00:05 AM

Received by OCD: 3/19/2025 9:55:55 AM

Distance from release to residence 30,229 ft

Write a description for your map.

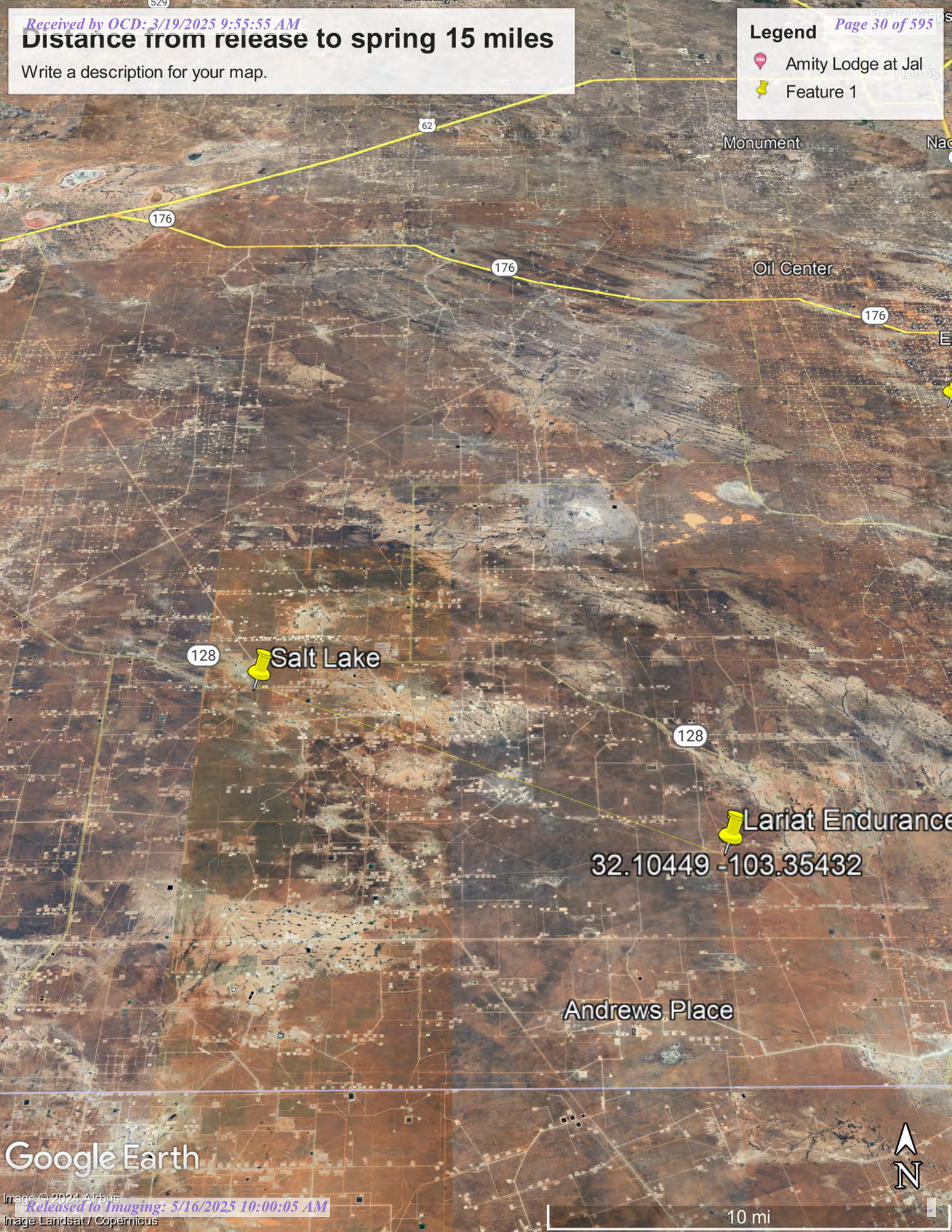


Released to Imaging: 5/16/2025 10:00:05 AM

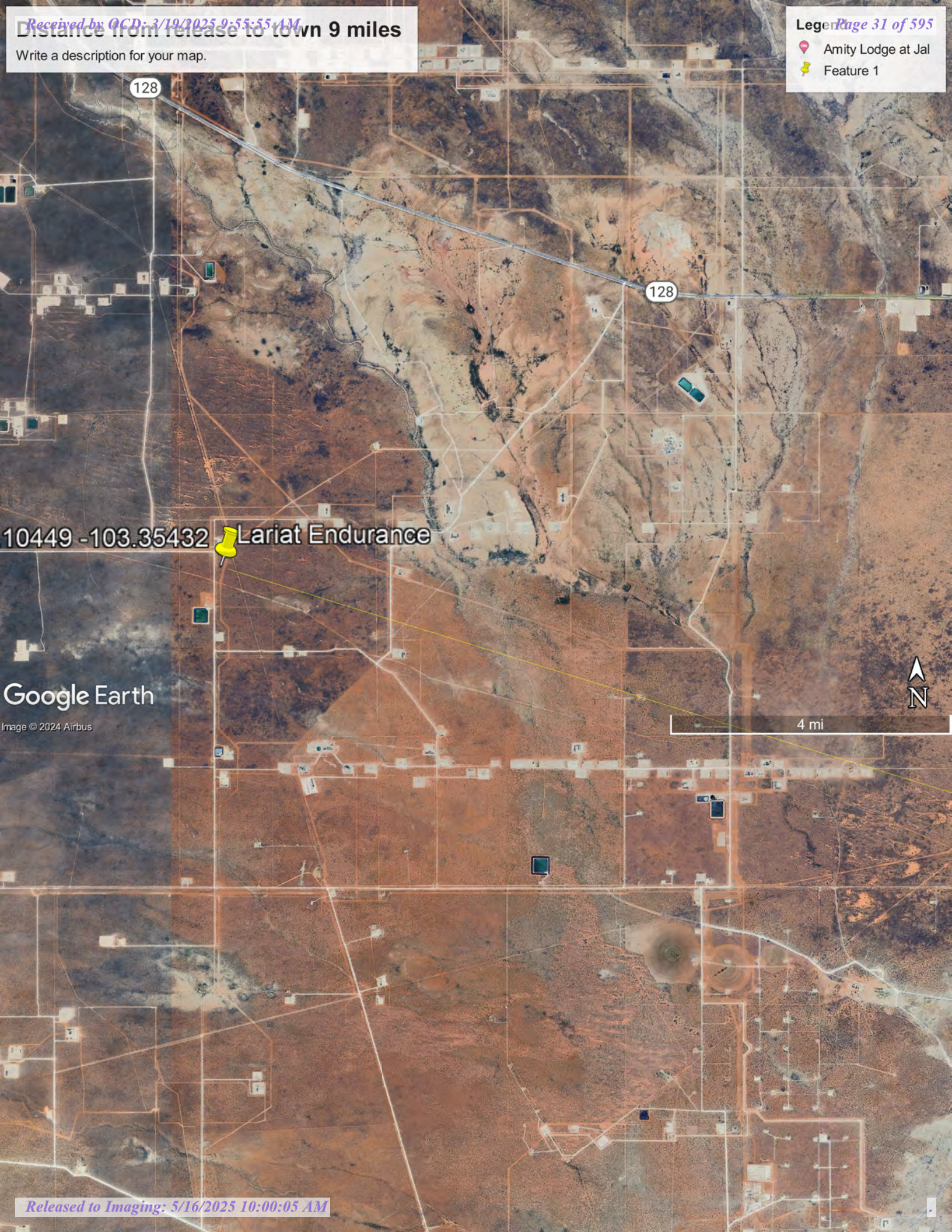
Received by OCD: 3/19/2025 9:55:55 AM

Distance from release to spring 15 miles

Write a description for your map.



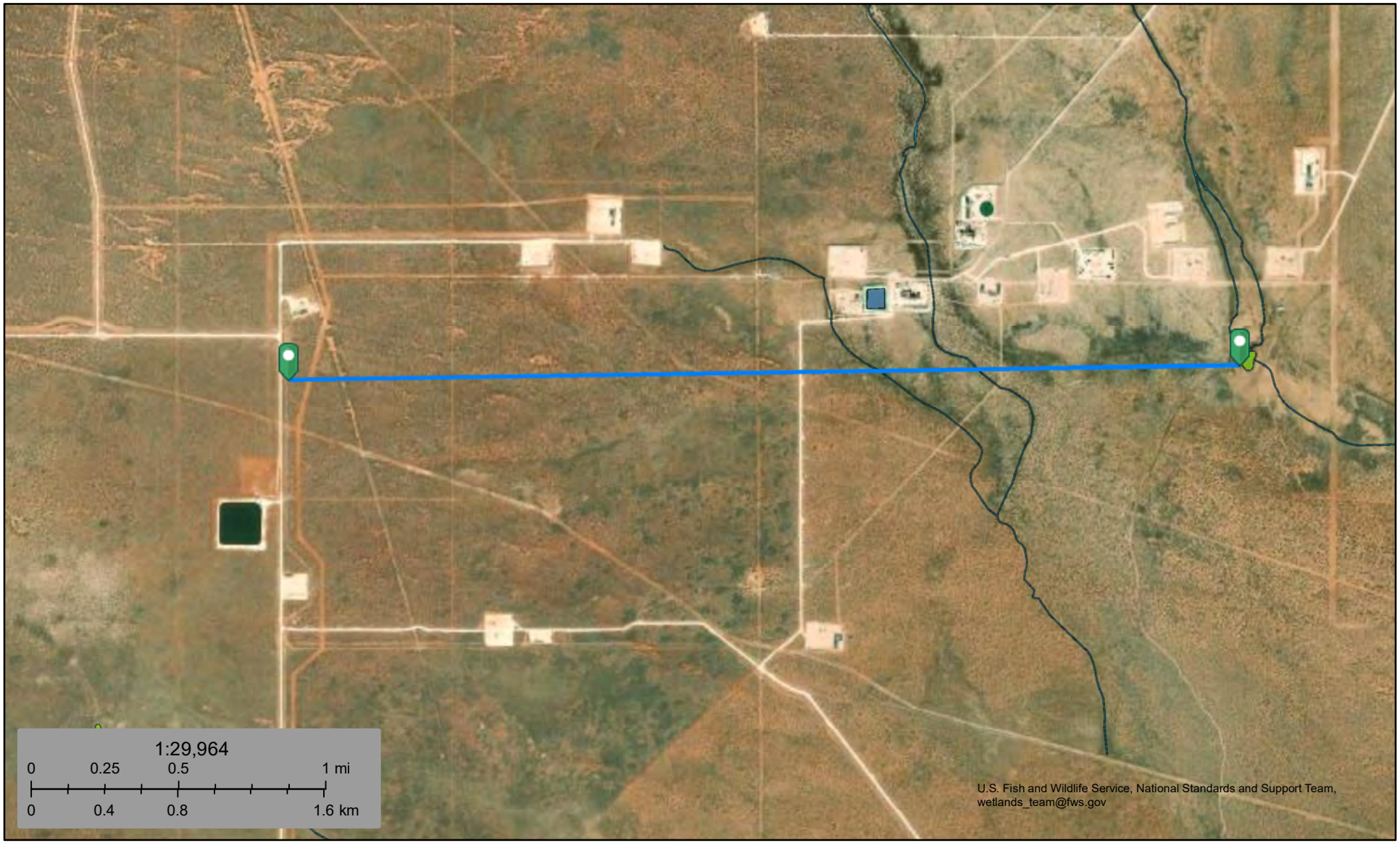
Released to Imaging: 5/16/2025 10:00:05 AM


Distance from release to town 9 miles
Write a description for your map.
Legend
Amity Lodge at Jal
Feature 1
128
128
10449 -103.35432
Lariat Endurance
Google Earth
Image © 2024 Airbus
4 mi
N

Received by OCD: 3/19/2025 9:55:55 AM

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetland Distance 14467



June 26, 2024

Wetlands

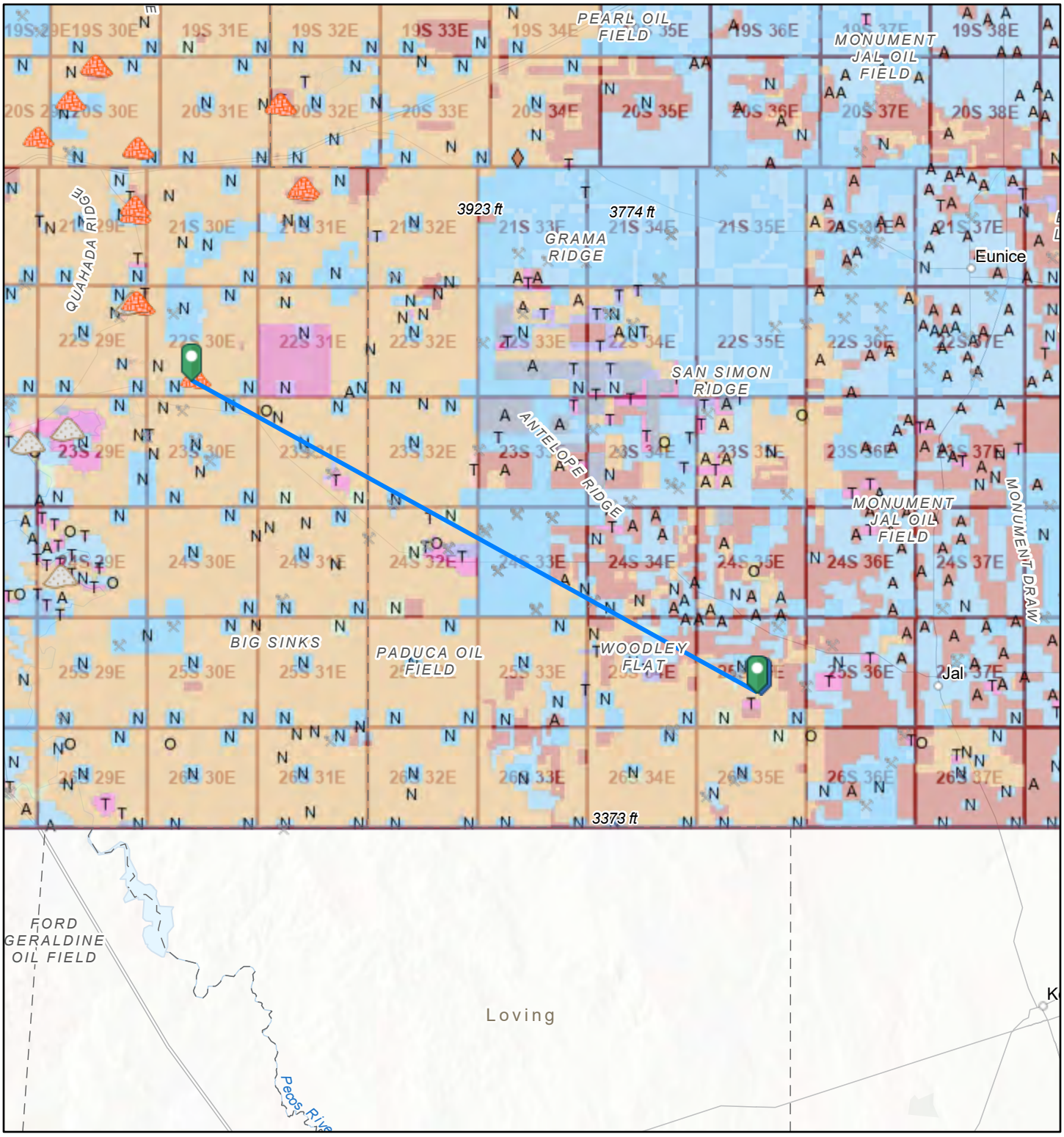
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

Released to Imaging: 5/16/2025 10:00:05 AM

Distance to Sub surface Mine



6/26/2024, 9:51:15 AM

1:577,791

0 4.25 8.5 17 mi

0 5 10 20 km

Registered Mines

- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Industrial Minerals (Other)
- Potash
- Salt
- PLSS Townships

Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS, Esri, CGIAR, USGS, BLM

EMNRD MMD GIS Coordinator

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

Distance from release to A Zone Flood Plain

Write a description for your map.

Legend

- Amity Lodge at Jal
- Feature 1

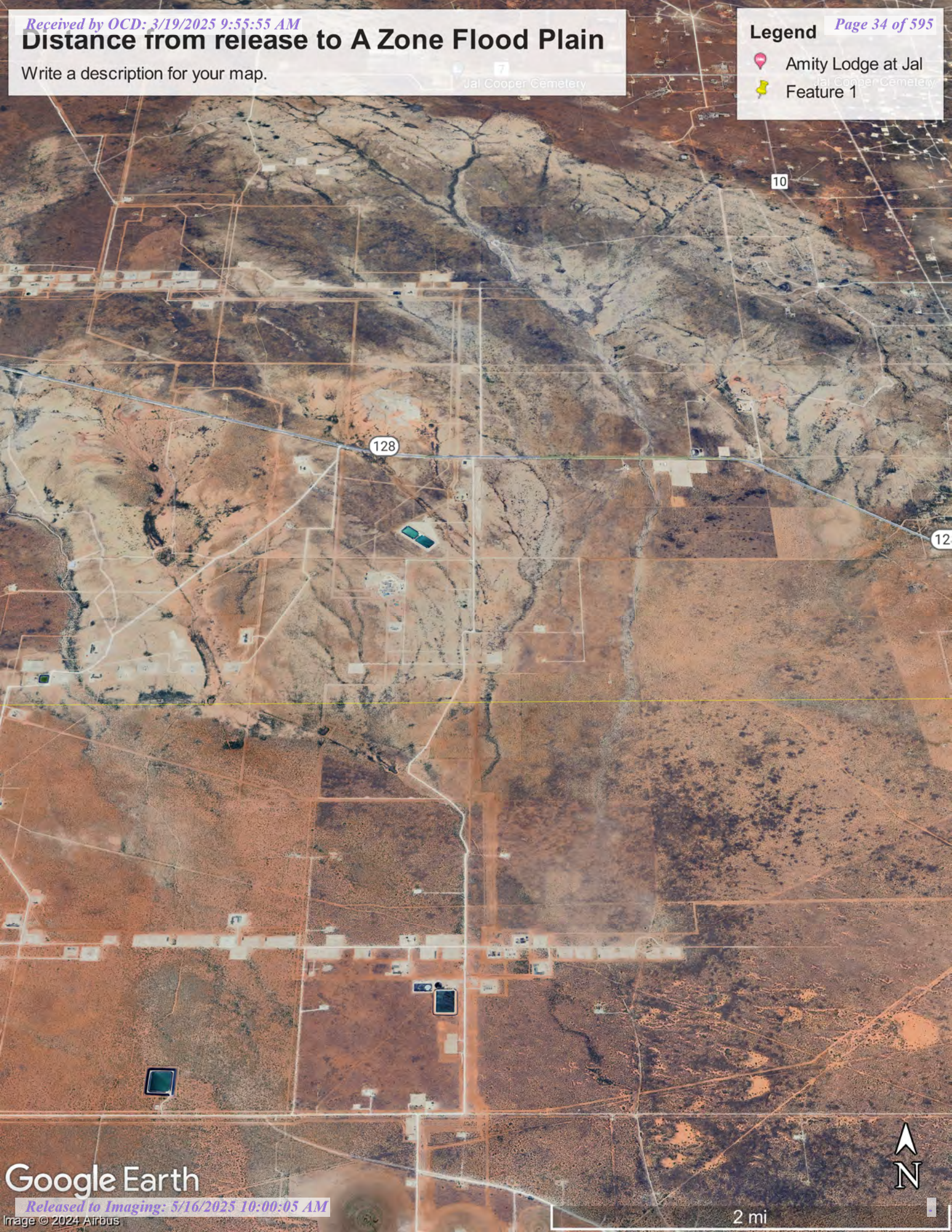


Image © 2024 Airbus

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National Flood Hazard Layer FIRMette

FEMA

103°21'34"W 32°6'31"N



103°20'57"W 32°6'1"N

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

1:6,000

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 6/26/2024 at 12:25 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Lea County, New Mexico



June 26, 2024

Lea County, New Mexico

PU—Pyote and Maljamar fine sands

Map Unit Setting

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

Map Unit Composition

Pyote and similar soils: 46 percent
Maljamar and similar soils: 44 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pyote

Setting

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

Typical profile

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

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

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

Description of Maljamar

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Kermit

Percent of map unit: 10 percent
Ecological site: R070BC022NM - Sandhills
Hydric soil rating: No

APPENDIX B – Daily Field Report with Photographs

Daily Site Visit Report

Site Photos

Viewing Direction: South



Wall sample

Viewing Direction: South



Wall sample

Viewing Direction: West



Overview of southern side of the site

Viewing Direction: East



Dig crew removed approximately half the soil pile

Daily Site Visit Report

Site Photos

Viewing Direction: Northwest



Sample area for BS24-38

Viewing Direction: South



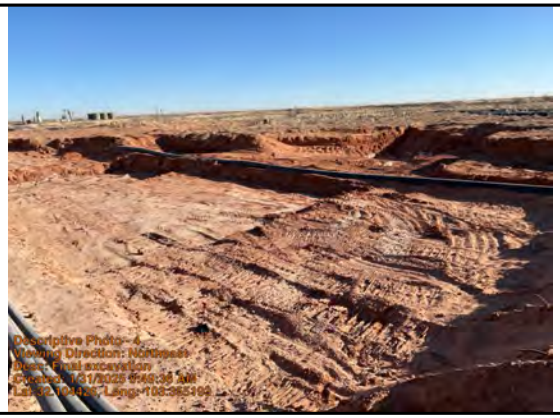
Sample area for WS25-101

Viewing Direction: Northwest



Sample area for WS25-101

Viewing Direction: Northeast



Final excavation

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: Northwest
	
Final excavation	Final excavation
Viewing Direction: Northwest	**Viewing Direction**: North
	
Final excavation	Final excavation

Daily Site Visit Report

Site Photos

Viewing Direction: East



Photo looking east of the central area of the former release

Viewing Direction: East



Photo looking east of the southern area of the former release

Viewing Direction: North



Photo from the south looking north over the forever release area

Viewing Direction: North



Photo of the re-covered water line

Daily Site Visit Report

Viewing Direction: East



Photo from the southeast looking west

Viewing Direction: North



Image of lay flat lines next to the road in the south looking north

Viewing Direction: North



Image of filled in and water packed road from the south looking north

Daily Site Visit Report

Viewing Direction: Northeast



Lay flat lines and seeded excavation from the center of the excavation to the northeast

Viewing Direction: East



Northern area of the excavation looking east

Viewing Direction: South

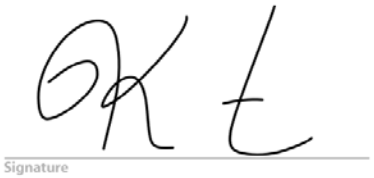


Layflat lines next to the road looking south from the north

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Katrina Taylor

Signature: 
Signature

APPENDIX C – Laboratory Data Reports and Chain of Custody Forms

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 12/16/2024 9:43:36 PM

JOB DESCRIPTION

Endurance Lariat Line

JOB NUMBER

885-16614-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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12/16/2024 9:43:36 PM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Line

Laboratory Job ID: 885-16614-1

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Case Narrative 5
Client Sample Results 6
QC Sample Results 11
QC Association Summary 14
Lab Chronicle 16
Certification Summary 18
Chain of Custody 19
Receipt Checklists 20

Definitions/Glossary

Client: Vertex Job ID: 885-16614-1
Project/Site: Endurance Lariat Line

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Line

Job ID: 885-16614-1

Job ID: 885-16614-1 Eurofins Albuquerque

Job Narrative
885-16614-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/10/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.3°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The continuing calibration verification (CCV) associated with batch 885-17589 recovered above the upper control limit for Diesel Range Organics [C10-C28]. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: WS24-03 0-5' (885-16614-3), WS24-11 2' (885-16614-4) and BS24-05 5' (885-16614-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Line

Job ID: 885-16614-1

Client Sample ID: BS24-04 5'

Date Collected: 12/06/24 10:15
Date Received: 12/10/24 08:00

Lab Sample ID: 885-16614-1

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		12/11/24 12:32	12/13/24 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*12/11/24 12:32*	*12/13/24 12:54*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/11/24 12:32	12/13/24 12:54	1
Ethylbenzene	ND		0.047		mg/Kg		12/11/24 12:32	12/13/24 12:54	1
Toluene	ND		0.047		mg/Kg		12/11/24 12:32	12/13/24 12:54	1
Xylenes, Total	ND		0.094		mg/Kg		12/11/24 12:32	12/13/24 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*12/11/24 12:32*	*12/13/24 12:54*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**26**		9.9		mg/Kg		12/12/24 15:27	12/13/24 22:55	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		12/12/24 15:27	12/13/24 22:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*86*		*62 - 134*	*12/12/24 15:27*	*12/13/24 22:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**		60		mg/Kg		12/12/24 12:01	12/12/24 21:03	20

Client Sample Results

Client: Vertex
Job ID: 885-16614-1
Project/Site: Endurance Lariat Line

Client Sample ID: WS24-01 0-5'
Lab Sample ID: 885-16614-2
Date Collected: 12/06/24 10:25
Matrix: Solid
Date Received: 12/10/24 08:00

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		12/11/24 12:32	12/13/24 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*12/11/24 12:32*	*12/13/24 14:05*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/11/24 12:32	12/13/24 14:05	1
Ethylbenzene	ND		0.049		mg/Kg		12/11/24 12:32	12/13/24 14:05	1
Toluene	ND		0.049		mg/Kg		12/11/24 12:32	12/13/24 14:05	1
Xylenes, Total	ND		0.099		mg/Kg		12/11/24 12:32	12/13/24 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*12/11/24 12:32*	*12/13/24 14:05*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		12/12/24 15:27	12/13/24 23:05	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		12/12/24 15:27	12/13/24 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*84*		*62 - 134*	*12/12/24 15:27*	*12/13/24 23:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**72**		60		mg/Kg		12/12/24 12:01	12/12/24 21:13	20

Client Sample Results

Client: Vertex
Job ID: 885-16614-1
Project/Site: Endurance Lariat Line

Client Sample ID: WS24-03 0-5'
Lab Sample ID: 885-16614-3
Date Collected: 12/06/24 10:35
Matrix: Solid
Date Received: 12/10/24 08:00

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.6		mg/Kg		12/11/24 12:32	12/13/24 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*12/11/24 12:32*	*12/13/24 15:16*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/11/24 12:32	12/13/24 15:16	1
Ethylbenzene	ND		0.046		mg/Kg		12/11/24 12:32	12/13/24 15:16	1
Toluene	ND		0.046		mg/Kg		12/11/24 12:32	12/13/24 15:16	1
Xylenes, Total	ND		0.092		mg/Kg		12/11/24 12:32	12/13/24 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*12/11/24 12:32*	*12/13/24 15:16*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		12/12/24 15:27	12/13/24 06:17	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		12/12/24 15:27	12/13/24 06:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*12/12/24 15:27*	*12/13/24 06:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**		60		mg/Kg		12/12/24 12:01	12/12/24 21:44	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Line

Job ID: 885-16614-1

Client Sample ID: WS24-11 2'

Date Collected: 12/06/24 11:10
Date Received: 12/10/24 08:00

Lab Sample ID: 885-16614-4

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		12/11/24 12:32	12/13/24 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*12/11/24 12:32*	*12/13/24 15:40*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/11/24 12:32	12/13/24 15:40	1
Ethylbenzene	ND		0.049		mg/Kg		12/11/24 12:32	12/13/24 15:40	1
Toluene	ND		0.049		mg/Kg		12/11/24 12:32	12/13/24 15:40	1
Xylenes, Total	ND		0.098		mg/Kg		12/11/24 12:32	12/13/24 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*12/11/24 12:32*	*12/13/24 15:40*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		12/12/24 15:27	12/13/24 06:28	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		12/12/24 15:27	12/13/24 06:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*12/12/24 15:27*	*12/13/24 06:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/12/24 12:01	12/12/24 21:55	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Line

Job ID: 885-16614-1

Client Sample ID: BS24-05 5'

Date Collected: 12/06/24 14:05
Date Received: 12/10/24 08:00

Lab Sample ID: 885-16614-5

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		12/11/24 12:32	12/13/24 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*12/11/24 12:32*	*12/13/24 16:04*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/11/24 12:32	12/13/24 16:04	1
Ethylbenzene	ND		0.048		mg/Kg		12/11/24 12:32	12/13/24 16:04	1
Toluene	ND		0.048		mg/Kg		12/11/24 12:32	12/13/24 16:04	1
Xylenes, Total	ND		0.097		mg/Kg		12/11/24 12:32	12/13/24 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*12/11/24 12:32*	*12/13/24 16:04*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		12/12/24 15:27	12/13/24 06:40	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		12/12/24 15:27	12/13/24 06:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*12/12/24 15:27*	*12/13/24 06:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		60		mg/Kg		12/12/24 12:01	12/12/24 22:05	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Line

Job ID: 885-16614-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-17532/1-A
Matrix: Solid
Analysis Batch: 17754

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17532

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/11/24 12:32	12/13/24 11:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*12/11/24 12:32*	*12/13/24 11:43*	*1*

Lab Sample ID: LCS 885-17532/2-A
Matrix: Solid
Analysis Batch: 17754

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17532

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	26.6		mg/Kg		106	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*201*		*35 - 166*

Lab Sample ID: 885-16614-1 MS
Matrix: Solid
Analysis Batch: 17754

Client Sample ID: BS24-04 5'
Prep Type: Total/NA
Prep Batch: 17532

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		23.6	24.9		mg/Kg		106	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*212*		*35 - 166*

Lab Sample ID: 885-16614-1 MSD
Matrix: Solid
Analysis Batch: 17754

Client Sample ID: BS24-04 5'
Prep Type: Total/NA
Prep Batch: 17532

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		23.5	25.9		mg/Kg		110	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*211*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-17532/1-A
Matrix: Solid
Analysis Batch: 17755

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17532

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/11/24 12:32	12/13/24 11:43	1
Ethylbenzene	ND		0.050		mg/Kg		12/11/24 12:32	12/13/24 11:43	1
Toluene	ND		0.050		mg/Kg		12/11/24 12:32	12/13/24 11:43	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Line

Job ID: 885-16614-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-17532/1-A
Matrix: Solid
Analysis Batch: 17755

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17532

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		12/11/24 12:32	12/13/24 11:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*12/11/24 12:32*	*12/13/24 11:43*	*1*

Lab Sample ID: LCS 885-17532/3-A
Matrix: Solid
Analysis Batch: 17755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17532

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.05		mg/Kg		105	70 - 130		
Ethylbenzene			1.00	1.10		mg/Kg		110	70 - 130		
m,p-Xylene			2.00	2.16		mg/Kg		108	70 - 130		
o-Xylene			1.00	1.05		mg/Kg		105	70 - 130		
Toluene			1.00	1.09		mg/Kg		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*

Lab Sample ID: 885-16614-2 MS
Matrix: Solid
Analysis Batch: 17755

Client Sample ID: WS24-01 0-5'
Prep Type: Total/NA
Prep Batch: 17532

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.984	0.983		mg/Kg		100	70 - 130		
Ethylbenzene	ND		0.984	1.05		mg/Kg		107	70 - 130		
m,p-Xylene	ND		1.97	2.09		mg/Kg		106	70 - 130		
o-Xylene	ND		0.984	1.03		mg/Kg		105	70 - 130		
Toluene	ND		0.984	1.04		mg/Kg		106	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*

Lab Sample ID: 885-16614-2 MSD
Matrix: Solid
Analysis Batch: 17755

Client Sample ID: WS24-01 0-5'
Prep Type: Total/NA
Prep Batch: 17532

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.985	0.978		mg/Kg		99	70 - 130	1	20
Ethylbenzene	ND		0.985	1.05		mg/Kg		107	70 - 130	0	20
m,p-Xylene	ND		1.97	2.07		mg/Kg		105	70 - 130	1	20
o-Xylene	ND		0.985	1.02		mg/Kg		103	70 - 130	1	20
Toluene	ND		0.985	1.02		mg/Kg		103	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Line

Job ID: 885-16614-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-17666/1-A
Matrix: Solid
Analysis Batch: 17709

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17666

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		12/12/24 15:27	12/13/24 22:24	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/12/24 15:27	12/13/24 22:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*90*		*62 - 134*	*12/12/24 15:27*	*12/13/24 22:24*	*1*

Lab Sample ID: LCS 885-17666/2-A
Matrix: Solid
Analysis Batch: 17709

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17666

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	41.9		mg/Kg		84	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*82*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MRL 885-17558/3
Matrix: Solid
Analysis Batch: 17558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.512		mg/L		102	50 - 150		

Lab Sample ID: MB 885-17627/1-A
Matrix: Solid
Analysis Batch: 17558

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17627

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5		mg/Kg		12/12/24 12:01	12/12/24 14:30	1

Lab Sample ID: LCS 885-17627/2-A
Matrix: Solid
Analysis Batch: 17558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17627

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			15.0	14.9		mg/Kg		99	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Line

Job ID: 885-16614-1

GC VOA

Prep Batch: 17532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16614-1	BS24-04 5'	Total/NA	Solid	5030C	
885-16614-2	WS24-01 0-5'	Total/NA	Solid	5030C	
885-16614-3	WS24-03 0-5'	Total/NA	Solid	5030C	
885-16614-4	WS24-11 2'	Total/NA	Solid	5030C	
885-16614-5	BS24-05 5'	Total/NA	Solid	5030C	
MB 885-17532/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-17532/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-17532/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-16614-1 MS	BS24-04 5'	Total/NA	Solid	5030C	
885-16614-1 MSD	BS24-04 5'	Total/NA	Solid	5030C	
885-16614-2 MS	WS24-01 0-5'	Total/NA	Solid	5030C	
885-16614-2 MSD	WS24-01 0-5'	Total/NA	Solid	5030C	

Analysis Batch: 17754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16614-1	BS24-04 5'	Total/NA	Solid	8015M/D	17532
885-16614-2	WS24-01 0-5'	Total/NA	Solid	8015M/D	17532
885-16614-3	WS24-03 0-5'	Total/NA	Solid	8015M/D	17532
885-16614-4	WS24-11 2'	Total/NA	Solid	8015M/D	17532
885-16614-5	BS24-05 5'	Total/NA	Solid	8015M/D	17532
MB 885-17532/1-A	Method Blank	Total/NA	Solid	8015M/D	17532
LCS 885-17532/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	17532
885-16614-1 MS	BS24-04 5'	Total/NA	Solid	8015M/D	17532
885-16614-1 MSD	BS24-04 5'	Total/NA	Solid	8015M/D	17532

Analysis Batch: 17755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16614-1	BS24-04 5'	Total/NA	Solid	8021B	17532
885-16614-2	WS24-01 0-5'	Total/NA	Solid	8021B	17532
885-16614-3	WS24-03 0-5'	Total/NA	Solid	8021B	17532
885-16614-4	WS24-11 2'	Total/NA	Solid	8021B	17532
885-16614-5	BS24-05 5'	Total/NA	Solid	8021B	17532
MB 885-17532/1-A	Method Blank	Total/NA	Solid	8021B	17532
LCS 885-17532/3-A	Lab Control Sample	Total/NA	Solid	8021B	17532
885-16614-2 MS	WS24-01 0-5'	Total/NA	Solid	8021B	17532
885-16614-2 MSD	WS24-01 0-5'	Total/NA	Solid	8021B	17532

GC Semi VOA

Analysis Batch: 17589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16614-3	WS24-03 0-5'	Total/NA	Solid	8015M/D	17666
885-16614-4	WS24-11 2'	Total/NA	Solid	8015M/D	17666
885-16614-5	BS24-05 5'	Total/NA	Solid	8015M/D	17666

Prep Batch: 17666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16614-1	BS24-04 5'	Total/NA	Solid	SHAKE	
885-16614-2	WS24-01 0-5'	Total/NA	Solid	SHAKE	
885-16614-3	WS24-03 0-5'	Total/NA	Solid	SHAKE	
885-16614-4	WS24-11 2'	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Job ID: 885-16614-1
Project/Site: Endurance Lariat Line

GC Semi VOA (Continued)

Prep Batch: 17666 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16614-5	BS24-05 5'	Total/NA	Solid	SHAKE	
MB 885-17666/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-17666/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 17709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16614-1	BS24-04 5'	Total/NA	Solid	8015M/D	17666
885-16614-2	WS24-01 0-5'	Total/NA	Solid	8015M/D	17666
MB 885-17666/1-A	Method Blank	Total/NA	Solid	8015M/D	17666
LCS 885-17666/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	17666

HPLC/IC

Analysis Batch: 17558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16614-1	BS24-04 5'	Total/NA	Solid	300.0	17627
885-16614-2	WS24-01 0-5'	Total/NA	Solid	300.0	17627
885-16614-3	WS24-03 0-5'	Total/NA	Solid	300.0	17627
885-16614-4	WS24-11 2'	Total/NA	Solid	300.0	17627
885-16614-5	BS24-05 5'	Total/NA	Solid	300.0	17627
MB 885-17627/1-A	Method Blank	Total/NA	Solid	300.0	17627
LCS 885-17627/2-A	Lab Control Sample	Total/NA	Solid	300.0	17627
MRL 885-17558/3	Lab Control Sample	Total/NA	Solid	300.0	

Prep Batch: 17627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16614-1	BS24-04 5'	Total/NA	Solid	300_Prep	
885-16614-2	WS24-01 0-5'	Total/NA	Solid	300_Prep	
885-16614-3	WS24-03 0-5'	Total/NA	Solid	300_Prep	
885-16614-4	WS24-11 2'	Total/NA	Solid	300_Prep	
885-16614-5	BS24-05 5'	Total/NA	Solid	300_Prep	
MB 885-17627/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-17627/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Lab Chronicle

Client: Vertex
Job ID: 885-16614-1
Project/Site: Endurance Lariat Line

Client Sample ID: BS24-04 5'
Lab Sample ID: 885-16614-1
Date Collected: 12/06/24 10:15
Matrix: Solid
Date Received: 12/10/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8015M/D		1	17754	AT	EET ALB	12/13/24 12:54
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8021B		1	17755	AT	EET ALB	12/13/24 12:54
Total/NA	Prep	SHAKE			17666	EM	EET ALB	12/12/24 15:27
Total/NA	Analysis	8015M/D		1	17709	MI	EET ALB	12/13/24 22:55
Total/NA	Prep	300_Prep			17627	EH	EET ALB	12/12/24 12:01
Total/NA	Analysis	300.0		20	17558	EH	EET ALB	12/12/24 21:03

Client Sample ID: WS24-01 0-5'
Lab Sample ID: 885-16614-2
Date Collected: 12/06/24 10:25
Matrix: Solid
Date Received: 12/10/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8015M/D		1	17754	AT	EET ALB	12/13/24 14:05
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8021B		1	17755	AT	EET ALB	12/13/24 14:05
Total/NA	Prep	SHAKE			17666	EM	EET ALB	12/12/24 15:27
Total/NA	Analysis	8015M/D		1	17709	MI	EET ALB	12/13/24 23:05
Total/NA	Prep	300_Prep			17627	EH	EET ALB	12/12/24 12:01
Total/NA	Analysis	300.0		20	17558	EH	EET ALB	12/12/24 21:13

Client Sample ID: WS24-03 0-5'
Lab Sample ID: 885-16614-3
Date Collected: 12/06/24 10:35
Matrix: Solid
Date Received: 12/10/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8015M/D		1	17754	AT	EET ALB	12/13/24 15:16
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8021B		1	17755	AT	EET ALB	12/13/24 15:16
Total/NA	Prep	SHAKE			17666	EM	EET ALB	12/12/24 15:27
Total/NA	Analysis	8015M/D		1	17589	EM	EET ALB	12/13/24 06:17
Total/NA	Prep	300_Prep			17627	EH	EET ALB	12/12/24 12:01
Total/NA	Analysis	300.0		20	17558	EH	EET ALB	12/12/24 21:44

Client Sample ID: WS24-11 2'
Lab Sample ID: 885-16614-4
Date Collected: 12/06/24 11:10
Matrix: Solid
Date Received: 12/10/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8015M/D		1	17754	AT	EET ALB	12/13/24 15:40

Lab Chronicle

Client: Vertex
Job ID: 885-16614-1
Project/Site: Endurance Lariat Line

Client Sample ID: WS24-11 2'
Lab Sample ID: 885-16614-4
Date Collected: 12/06/24 11:10
Matrix: Solid
Date Received: 12/10/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8021B		1	17755	AT	EET ALB	12/13/24 15:40
Total/NA	Prep	SHAKE			17666	EM	EET ALB	12/12/24 15:27
Total/NA	Analysis	8015M/D		1	17589	EM	EET ALB	12/13/24 06:28
Total/NA	Prep	300_Prep			17627	EH	EET ALB	12/12/24 12:01
Total/NA	Analysis	300.0		20	17558	EH	EET ALB	12/12/24 21:55

Client Sample ID: BS24-05 5'
Lab Sample ID: 885-16614-5
Date Collected: 12/06/24 14:05
Matrix: Solid
Date Received: 12/10/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8015M/D		1	17754	AT	EET ALB	12/13/24 16:04
Total/NA	Prep	5030C			17532	JP	EET ALB	12/11/24 12:32
Total/NA	Analysis	8021B		1	17755	AT	EET ALB	12/13/24 16:04
Total/NA	Prep	SHAKE			17666	EM	EET ALB	12/12/24 15:27
Total/NA	Analysis	8015M/D		1	17589	EM	EET ALB	12/13/24 06:40
Total/NA	Prep	300_Prep			17627	EH	EET ALB	12/12/24 12:01
Total/NA	Analysis	300.0		20	17558	EH	EET ALB	12/12/24 22:05

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-16614-1
Project/Site: Endurance Lariat Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex / Solaris (Direct Bill)

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5-Day
☑ Standard ☐ Rush

Project Name: Endurance Lariat Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☑ Yes ☐ No mojo

# of Coolers: 1

Cooler Temp (including CF): 5.3±0=5.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABOR
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 8710
Tel. 505-345-3975 Fax 505-345-4107

885-16614 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/6	10:15	soil	BS24-04 5'	4oz	Ice		✓	✓					✓			
	10:25		WS24-01 0-5'													
	10:35		WS24-03 0-5'													
	11:10		WS24-11 2'													
	14:05		BS24-05 5'													

Date	Time	Relinquished by	Received by	Via:	Date	Time
12/9	1300				12/9/24	1300
12/11/24	1900			courier	12/10/24	8:00

Remarks: Direct Bill Rob Kirk @ Solaris
CC: AludwigVertexresource.com

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

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-16614-1

Login Number: 16614 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 12/20/2024 9:05:04 AM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-16872-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
12/20/2024 9:05:04 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-16872-1

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Definitions/Glossary

Client: Vertex Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-16872-1

Job ID: 885-16872-1 Eurofins Albuquerque

Job Narrative
885-16872-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/12/2024 7:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.1°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-12 4.0'
Lab Sample ID: 885-16872-1

Date Collected: 12/09/24 13:20
Matrix: Solid
Date Received: 12/12/24 07:45

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/12/24 12:40	12/14/24 06:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*35 - 166*	*12/12/24 12:40*	*12/14/24 06:02*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/12/24 12:40	12/14/24 06:02	1
Ethylbenzene	ND		0.050		mg/Kg		12/12/24 12:40	12/14/24 06:02	1
Toluene	ND		0.050		mg/Kg		12/12/24 12:40	12/14/24 06:02	1
Xylenes, Total	ND		0.099		mg/Kg		12/12/24 12:40	12/14/24 06:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*12/12/24 12:40*	*12/14/24 06:02*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**110**		9.8		mg/Kg		12/13/24 13:33	12/18/24 13:50	1
Motor Oil Range Organics [C28-C40]	**62**		49		mg/Kg		12/13/24 13:33	12/18/24 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*12/13/24 13:33*	*12/18/24 13:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**340**		60		mg/Kg		12/16/24 08:20	12/16/24 10:33	20

Client Sample Results

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-13 4.0'
Lab Sample ID: 885-16872-2
Date Collected: 12/09/24 13:25
Matrix: Solid
Date Received: 12/12/24 07:45

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		12/12/24 12:40	12/14/24 07:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*35 - 166*	*12/12/24 12:40*	*12/14/24 07:11*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/12/24 12:40	12/14/24 07:11	1
Ethylbenzene	ND		0.048		mg/Kg		12/12/24 12:40	12/14/24 07:11	1
Toluene	ND		0.048		mg/Kg		12/12/24 12:40	12/14/24 07:11	1
Xylenes, Total	ND		0.095		mg/Kg		12/12/24 12:40	12/14/24 07:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*12/12/24 12:40*	*12/14/24 07:11*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**70**		9.5		mg/Kg		12/13/24 13:33	12/18/24 14:01	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		12/13/24 13:33	12/18/24 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*97*		*62 - 134*	*12/13/24 13:33*	*12/18/24 14:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**		60		mg/Kg		12/16/24 08:20	12/16/24 11:04	20

Client Sample Results

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-14 4.0'
Lab Sample ID: 885-16872-3
Date Collected: 12/09/24 13:30
Matrix: Solid
Date Received: 12/12/24 07:45

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		12/12/24 12:40	12/14/24 08:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*35 - 166*	*12/12/24 12:40*	*12/14/24 08:20*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/12/24 12:40	12/14/24 08:20	1
Ethylbenzene	ND		0.047		mg/Kg		12/12/24 12:40	12/14/24 08:20	1
Toluene	ND		0.047		mg/Kg		12/12/24 12:40	12/14/24 08:20	1
Xylenes, Total	ND		0.093		mg/Kg		12/12/24 12:40	12/14/24 08:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*12/12/24 12:40*	*12/14/24 08:20*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		12/13/24 13:33	12/18/24 14:11	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		12/13/24 13:33	12/18/24 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*12/13/24 13:33*	*12/18/24 14:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**290**		60		mg/Kg		12/16/24 08:20	12/16/24 11:15	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-16872-1

Client Sample ID: BS24-15 4.0'

Date Collected: 12/09/24 13:35
Date Received: 12/12/24 07:45

Lab Sample ID: 885-16872-4

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/12/24 12:40	12/14/24 09:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*35 - 166*	*12/12/24 12:40*	*12/14/24 09:06*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/12/24 12:40	12/14/24 09:06	1
Ethylbenzene	ND		0.050		mg/Kg		12/12/24 12:40	12/14/24 09:06	1
Toluene	ND		0.050		mg/Kg		12/12/24 12:40	12/14/24 09:06	1
Xylenes, Total	ND		0.10		mg/Kg		12/12/24 12:40	12/14/24 09:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*12/12/24 12:40*	*12/14/24 09:06*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		12/13/24 13:33	12/18/24 14:22	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		12/13/24 13:33	12/18/24 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*12/13/24 13:33*	*12/18/24 14:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**170**		60		mg/Kg		12/16/24 08:20	12/16/24 11:46	20

Client Sample Results

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-18 4.0'
Lab Sample ID: 885-16872-5
Date Collected: 12/10/24 13:00
Matrix: Solid
Date Received: 12/12/24 07:45

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		12/12/24 12:40	12/14/24 09:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*35 - 166*	*12/12/24 12:40*	*12/14/24 09:29*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/12/24 12:40	12/14/24 09:29	1
Ethylbenzene	ND		0.048		mg/Kg		12/12/24 12:40	12/14/24 09:29	1
Toluene	ND		0.048		mg/Kg		12/12/24 12:40	12/14/24 09:29	1
Xylenes, Total	ND		0.097		mg/Kg		12/12/24 12:40	12/14/24 09:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*12/12/24 12:40*	*12/14/24 09:29*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		12/13/24 13:33	12/18/24 14:32	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		12/13/24 13:33	12/18/24 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*12/13/24 13:33*	*12/18/24 14:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**180**		60		mg/Kg		12/16/24 08:20	12/16/24 11:56	20

Client Sample Results

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-19 5.0'
Lab Sample ID: 885-16872-6
Date Collected: 12/10/24 13:05
Matrix: Solid
Date Received: 12/12/24 07:45

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		12/12/24 12:40	12/14/24 09:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*35 - 166*	*12/12/24 12:40*	*12/14/24 09:52*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/12/24 12:40	12/14/24 09:52	1
Ethylbenzene	ND		0.049		mg/Kg		12/12/24 12:40	12/14/24 09:52	1
Toluene	ND		0.049		mg/Kg		12/12/24 12:40	12/14/24 09:52	1
Xylenes, Total	ND		0.097		mg/Kg		12/12/24 12:40	12/14/24 09:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*12/12/24 12:40*	*12/14/24 09:52*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		12/13/24 13:33	12/18/24 14:43	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/13/24 13:33	12/18/24 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*	*12/13/24 13:33*	*12/18/24 14:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**		60		mg/Kg		12/16/24 08:20	12/16/24 12:06	20

Client Sample Results

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-20 5.0'
Lab Sample ID: 885-16872-7
Date Collected: 12/10/24 13:10
Matrix: Solid
Date Received: 12/12/24 07:45

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		12/12/24 12:40	12/14/24 10:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*35 - 166*	*12/12/24 12:40*	*12/14/24 10:15*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/12/24 12:40	12/14/24 10:15	1
Ethylbenzene	ND		0.048		mg/Kg		12/12/24 12:40	12/14/24 10:15	1
Toluene	ND		0.048		mg/Kg		12/12/24 12:40	12/14/24 10:15	1
Xylenes, Total	ND		0.095		mg/Kg		12/12/24 12:40	12/14/24 10:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*12/12/24 12:40*	*12/14/24 10:15*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**31**		9.8		mg/Kg		12/13/24 13:33	12/18/24 14:53	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		12/13/24 13:33	12/18/24 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*12/13/24 13:33*	*12/18/24 14:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3900**		150		mg/Kg		12/16/24 08:20	12/17/24 14:56	50

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-16872-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-17635/1-A
Matrix: Solid
Analysis Batch: 17778

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17635

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/12/24 12:40	12/14/24 05:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*35 - 166*	*12/12/24 12:40*	*12/14/24 05:39*	*1*

Lab Sample ID: LCS 885-17635/2-A
Matrix: Solid
Analysis Batch: 17778

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17635

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	23.3		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*188*		*35 - 166*

Lab Sample ID: 885-16872-1 MS
Matrix: Solid
Analysis Batch: 17778

Client Sample ID: BS24-12 4.0'
Prep Type: Total/NA
Prep Batch: 17635

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		24.6	24.4		mg/Kg		99	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*187*		*35 - 166*

Lab Sample ID: 885-16872-1 MSD
Matrix: Solid
Analysis Batch: 17778

Client Sample ID: BS24-12 4.0'
Prep Type: Total/NA
Prep Batch: 17635

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		24.8	24.8		mg/Kg		100	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*188*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-17635/1-A
Matrix: Solid
Analysis Batch: 17779

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17635

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/12/24 12:40	12/14/24 05:39	1
Ethylbenzene	ND		0.050		mg/Kg		12/12/24 12:40	12/14/24 05:39	1
Toluene	ND		0.050		mg/Kg		12/12/24 12:40	12/14/24 05:39	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-16872-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-17635/1-A
Matrix: Solid
Analysis Batch: 17779

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17635

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		12/12/24 12:40	12/14/24 05:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*12/12/24 12:40*	*12/14/24 05:39*	*1*

Lab Sample ID: LCS 885-17635/3-A
Matrix: Solid
Analysis Batch: 17779

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17635

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.984		mg/Kg		98	70 - 130		
Ethylbenzene			1.00	1.02		mg/Kg		102	70 - 130		
m,p-Xylene			2.00	1.99		mg/Kg		100	70 - 130		
o-Xylene			1.00	0.984		mg/Kg		98	70 - 130		
Toluene			1.00	1.03		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*48 - 145*

Lab Sample ID: 885-16872-2 MS
Matrix: Solid
Analysis Batch: 17779

Client Sample ID: BS24-13 4.0'
Prep Type: Total/NA
Prep Batch: 17635

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.964	0.987		mg/Kg		102	70 - 130		
Ethylbenzene	ND		0.964	1.05		mg/Kg		109	70 - 130		
m,p-Xylene	ND		1.93	2.01		mg/Kg		104	70 - 130		
o-Xylene	ND		0.964	0.994		mg/Kg		103	70 - 130		
Toluene	ND		0.964	1.05		mg/Kg		108	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*

Lab Sample ID: 885-16872-2 MSD
Matrix: Solid
Analysis Batch: 17779

Client Sample ID: BS24-13 4.0'
Prep Type: Total/NA
Prep Batch: 17635

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.952	0.990		mg/Kg		104	70 - 130	0	20
Ethylbenzene	ND		0.952	1.05		mg/Kg		110	70 - 130	0	20
m,p-Xylene	ND		1.90	2.05		mg/Kg		107	70 - 130	2	20
o-Xylene	ND		0.952	0.994		mg/Kg		104	70 - 130	0	20
Toluene	ND		0.952	1.04		mg/Kg		110	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-16872-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-17753/1-A
Matrix: Solid
Analysis Batch: 18021

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17753

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		12/13/24 13:33	12/18/24 13:29	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/13/24 13:33	12/18/24 13:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*12/13/24 13:33*	*12/18/24 13:29*	*1*

Lab Sample ID: LCS 885-17753/2-A
Matrix: Solid
Analysis Batch: 18021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17753

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	56.3		mg/Kg		113	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-17797/1-A
Matrix: Solid
Analysis Batch: 17811

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17797

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		12/16/24 08:20	12/16/24 09:36	1

Lab Sample ID: LCS 885-17797/2-A
Matrix: Solid
Analysis Batch: 17811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17797

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.4		mg/Kg		95	90 - 110		

Lab Sample ID: 885-16872-1 MS
Matrix: Solid
Analysis Batch: 17811

Client Sample ID: BS24-12 4.0'
Prep Type: Total/NA
Prep Batch: 17797

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	340		30.0	370	4	mg/Kg		117	50 - 150		

Lab Sample ID: 885-16872-1 MSD
Matrix: Solid
Analysis Batch: 17811

Client Sample ID: BS24-12 4.0'
Prep Type: Total/NA
Prep Batch: 17797

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	340		29.9	361	4	mg/Kg		87	50 - 150	3	20

QC Association Summary

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

GC VOA

Prep Batch: 17635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16872-1	BS24-12 4.0'	Total/NA	Solid	5030C	
885-16872-2	BS24-13 4.0'	Total/NA	Solid	5030C	
885-16872-3	BS24-14 4.0'	Total/NA	Solid	5030C	
885-16872-4	BS24-15 4.0'	Total/NA	Solid	5030C	
885-16872-5	BS24-18 4.0'	Total/NA	Solid	5030C	
885-16872-6	BS24-19 5.0'	Total/NA	Solid	5030C	
885-16872-7	BS24-20 5.0'	Total/NA	Solid	5030C	
MB 885-17635/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-17635/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-17635/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-16872-1 MS	BS24-12 4.0'	Total/NA	Solid	5030C	
885-16872-1 MSD	BS24-12 4.0'	Total/NA	Solid	5030C	
885-16872-2 MS	BS24-13 4.0'	Total/NA	Solid	5030C	
885-16872-2 MSD	BS24-13 4.0'	Total/NA	Solid	5030C	

Analysis Batch: 17778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16872-1	BS24-12 4.0'	Total/NA	Solid	8015M/D	17635
885-16872-2	BS24-13 4.0'	Total/NA	Solid	8015M/D	17635
885-16872-3	BS24-14 4.0'	Total/NA	Solid	8015M/D	17635
885-16872-4	BS24-15 4.0'	Total/NA	Solid	8015M/D	17635
885-16872-5	BS24-18 4.0'	Total/NA	Solid	8015M/D	17635
885-16872-6	BS24-19 5.0'	Total/NA	Solid	8015M/D	17635
885-16872-7	BS24-20 5.0'	Total/NA	Solid	8015M/D	17635
MB 885-17635/1-A	Method Blank	Total/NA	Solid	8015M/D	17635
LCS 885-17635/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	17635
885-16872-1 MS	BS24-12 4.0'	Total/NA	Solid	8015M/D	17635
885-16872-1 MSD	BS24-12 4.0'	Total/NA	Solid	8015M/D	17635

Analysis Batch: 17779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16872-1	BS24-12 4.0'	Total/NA	Solid	8021B	17635
885-16872-2	BS24-13 4.0'	Total/NA	Solid	8021B	17635
885-16872-3	BS24-14 4.0'	Total/NA	Solid	8021B	17635
885-16872-4	BS24-15 4.0'	Total/NA	Solid	8021B	17635
885-16872-5	BS24-18 4.0'	Total/NA	Solid	8021B	17635
885-16872-6	BS24-19 5.0'	Total/NA	Solid	8021B	17635
885-16872-7	BS24-20 5.0'	Total/NA	Solid	8021B	17635
MB 885-17635/1-A	Method Blank	Total/NA	Solid	8021B	17635
LCS 885-17635/3-A	Lab Control Sample	Total/NA	Solid	8021B	17635
885-16872-2 MS	BS24-13 4.0'	Total/NA	Solid	8021B	17635
885-16872-2 MSD	BS24-13 4.0'	Total/NA	Solid	8021B	17635

GC Semi VOA

Prep Batch: 17753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16872-1	BS24-12 4.0'	Total/NA	Solid	SHAKE	
885-16872-2	BS24-13 4.0'	Total/NA	Solid	SHAKE	
885-16872-3	BS24-14 4.0'	Total/NA	Solid	SHAKE	
885-16872-4	BS24-15 4.0'	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

GC Semi VOA (Continued)

Prep Batch: 17753 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16872-5	BS24-18 4.0'	Total/NA	Solid	SHAKE	
885-16872-6	BS24-19 5.0'	Total/NA	Solid	SHAKE	
885-16872-7	BS24-20 5.0'	Total/NA	Solid	SHAKE	
MB 885-17753/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-17753/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 18021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16872-1	BS24-12 4.0'	Total/NA	Solid	8015M/D	17753
885-16872-2	BS24-13 4.0'	Total/NA	Solid	8015M/D	17753
885-16872-3	BS24-14 4.0'	Total/NA	Solid	8015M/D	17753
885-16872-4	BS24-15 4.0'	Total/NA	Solid	8015M/D	17753
885-16872-5	BS24-18 4.0'	Total/NA	Solid	8015M/D	17753
885-16872-6	BS24-19 5.0'	Total/NA	Solid	8015M/D	17753
885-16872-7	BS24-20 5.0'	Total/NA	Solid	8015M/D	17753
MB 885-17753/1-A	Method Blank	Total/NA	Solid	8015M/D	17753
LCS 885-17753/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	17753

HPLC/IC

Prep Batch: 17797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16872-1	BS24-12 4.0'	Total/NA	Solid	300_Prep	
885-16872-2	BS24-13 4.0'	Total/NA	Solid	300_Prep	
885-16872-3	BS24-14 4.0'	Total/NA	Solid	300_Prep	
885-16872-4	BS24-15 4.0'	Total/NA	Solid	300_Prep	
885-16872-5	BS24-18 4.0'	Total/NA	Solid	300_Prep	
885-16872-6	BS24-19 5.0'	Total/NA	Solid	300_Prep	
885-16872-7	BS24-20 5.0'	Total/NA	Solid	300_Prep	
MB 885-17797/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-17797/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
885-16872-1 MS	BS24-12 4.0'	Total/NA	Solid	300_Prep	
885-16872-1 MSD	BS24-12 4.0'	Total/NA	Solid	300_Prep	

Analysis Batch: 17811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16872-1	BS24-12 4.0'	Total/NA	Solid	300.0	17797
885-16872-2	BS24-13 4.0'	Total/NA	Solid	300.0	17797
885-16872-3	BS24-14 4.0'	Total/NA	Solid	300.0	17797
885-16872-4	BS24-15 4.0'	Total/NA	Solid	300.0	17797
885-16872-5	BS24-18 4.0'	Total/NA	Solid	300.0	17797
885-16872-6	BS24-19 5.0'	Total/NA	Solid	300.0	17797
MB 885-17797/1-A	Method Blank	Total/NA	Solid	300.0	17797
LCS 885-17797/2-A	Lab Control Sample	Total/NA	Solid	300.0	17797
885-16872-1 MS	BS24-12 4.0'	Total/NA	Solid	300.0	17797
885-16872-1 MSD	BS24-12 4.0'	Total/NA	Solid	300.0	17797

Analysis Batch: 17905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-16872-7	BS24-20 5.0'	Total/NA	Solid	300.0	17797

Lab Chronicle

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-12 4.0'
Lab Sample ID: 885-16872-1
Date Collected: 12/09/24 13:20
Matrix: Solid
Date Received: 12/12/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8015M/D		1	17778	AT	EET ALB	12/14/24 06:02
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8021B		1	17779	AT	EET ALB	12/14/24 06:02
Total/NA	Prep	SHAKE			17753	MI	EET ALB	12/13/24 13:33
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/18/24 13:50
Total/NA	Prep	300_Prep			17797	JT	EET ALB	12/16/24 08:20
Total/NA	Analysis	300.0		20	17811	JT	EET ALB	12/16/24 10:33

Client Sample ID: BS24-13 4.0'
Lab Sample ID: 885-16872-2
Date Collected: 12/09/24 13:25
Matrix: Solid
Date Received: 12/12/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8015M/D		1	17778	AT	EET ALB	12/14/24 07:11
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8021B		1	17779	AT	EET ALB	12/14/24 07:11
Total/NA	Prep	SHAKE			17753	MI	EET ALB	12/13/24 13:33
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/18/24 14:01
Total/NA	Prep	300_Prep			17797	JT	EET ALB	12/16/24 08:20
Total/NA	Analysis	300.0		20	17811	JT	EET ALB	12/16/24 11:04

Client Sample ID: BS24-14 4.0'
Lab Sample ID: 885-16872-3
Date Collected: 12/09/24 13:30
Matrix: Solid
Date Received: 12/12/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8015M/D		1	17778	AT	EET ALB	12/14/24 08:20
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8021B		1	17779	AT	EET ALB	12/14/24 08:20
Total/NA	Prep	SHAKE			17753	MI	EET ALB	12/13/24 13:33
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/18/24 14:11
Total/NA	Prep	300_Prep			17797	JT	EET ALB	12/16/24 08:20
Total/NA	Analysis	300.0		20	17811	JT	EET ALB	12/16/24 11:15

Client Sample ID: BS24-15 4.0'
Lab Sample ID: 885-16872-4
Date Collected: 12/09/24 13:35
Matrix: Solid
Date Received: 12/12/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8015M/D		1	17778	AT	EET ALB	12/14/24 09:06

Lab Chronicle

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-15 4.0'
Lab Sample ID: 885-16872-4
Date Collected: 12/09/24 13:35
Matrix: Solid
Date Received: 12/12/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8021B		1	17779	AT	EET ALB	12/14/24 09:06
Total/NA	Prep	SHAKE			17753	MI	EET ALB	12/13/24 13:33
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/18/24 14:22
Total/NA	Prep	300_Prep			17797	JT	EET ALB	12/16/24 08:20
Total/NA	Analysis	300.0		20	17811	JT	EET ALB	12/16/24 11:46

Client Sample ID: BS24-18 4.0'
Lab Sample ID: 885-16872-5
Date Collected: 12/10/24 13:00
Matrix: Solid
Date Received: 12/12/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8015M/D		1	17778	AT	EET ALB	12/14/24 09:29
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8021B		1	17779	AT	EET ALB	12/14/24 09:29
Total/NA	Prep	SHAKE			17753	MI	EET ALB	12/13/24 13:33
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/18/24 14:32
Total/NA	Prep	300_Prep			17797	JT	EET ALB	12/16/24 08:20
Total/NA	Analysis	300.0		20	17811	JT	EET ALB	12/16/24 11:56

Client Sample ID: BS24-19 5.0'
Lab Sample ID: 885-16872-6
Date Collected: 12/10/24 13:05
Matrix: Solid
Date Received: 12/12/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8015M/D		1	17778	AT	EET ALB	12/14/24 09:52
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8021B		1	17779	AT	EET ALB	12/14/24 09:52
Total/NA	Prep	SHAKE			17753	MI	EET ALB	12/13/24 13:33
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/18/24 14:43
Total/NA	Prep	300_Prep			17797	JT	EET ALB	12/16/24 08:20
Total/NA	Analysis	300.0		20	17811	JT	EET ALB	12/16/24 12:06

Client Sample ID: BS24-20 5.0'
Lab Sample ID: 885-16872-7
Date Collected: 12/10/24 13:10
Matrix: Solid
Date Received: 12/12/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8015M/D		1	17778	AT	EET ALB	12/14/24 10:15
Total/NA	Prep	5030C			17635	JP	EET ALB	12/12/24 12:40
Total/NA	Analysis	8021B		1	17779	AT	EET ALB	12/14/24 10:15

Lab Chronicle

Client: Vertex
Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-20 5.0'
Lab Sample ID: 885-16872-7

Date Collected: 12/10/24 13:10
Matrix: Solid
Date Received: 12/12/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			17753	MI	EET ALB	12/13/24 13:33
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/18/24 14:53
Total/NA	Prep	300_Prep			17797	JT	EET ALB	12/16/24 08:20
Total/NA	Analysis	300.0		50	17905	ES	EET ALB	12/17/24 14:56

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-16872-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Solaris / Vertex
On File
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
Project Name: Endurance Lariat Water Line
Project #: 24E-03247
Project Manager: Chance Dixon
Sampler: AL
On Ice: ☒ Yes ☐ No
# of Coolers: 1 Mpic
Cooler Temp (Including CF): 0.2-0.1=0.1 (°C)

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

885-16872 COC

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
12.09.24	1320	Soil	BS24-12 4.0'	4oz	ICE	
	1325		BS24-13 4.0'			
	1330		BS24-14 4.0'			
	1335		BS24-15 4.0'			
12.10.24	1300		BS24-18 4.0'			
	1305		BS24-19 5.0'			
	1310		BS24-20 5.0'			

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)

Date	Time	Relinquished by	Received by	Via	Date	Time
12/11/24	930				12/11/24	930
12/11/24	1900			courier	12/12/24	7:45

Remarks: Cost center number #9970R Bill to Solaris (Rob Kirk)
cc: CDixon@Vertexresource.com
ALudvik@Vertexresource.com

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

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-16872-1

Login Number: 16872 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/17/2025 9:04:01 AM

JOB DESCRIPTION

Endurance Line Lariat

JOB NUMBER

885-18377-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/17/2025 9:04:01 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Line Lariat

Laboratory Job ID: 885-18377-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Line Lariat

Job ID: 885-18377-1

Job ID: 885-18377-1 Eurofins Albuquerque

Job Narrative
885-18377-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/15/2025 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

Gasoline Range Organics
Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: WS 24-64 5-8' (885-18377-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: WS 25-77 5-6 (885-18377-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: WS 24-70 0-4' (885-18377-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: BS 24-29 7' (885-18377-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following samples were outside control limits: (885-18377-B-1-B MS) and (885-18377-B-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 885-19356 and analytical batch 885-19335 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: BS 24-29 7'
Lab Sample ID: 885-18377-1
Date Collected: 01/13/25 09:00
Matrix: Solid
Date Received: 01/15/25 08:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	18		3.8		mg/Kg		01/15/25 09:05	01/15/25 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*185*	*S1+*	*35 - 166*	*01/15/25 09:05*	*01/15/25 15:09*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/15/25 09:05	01/15/25 15:09	1
Ethylbenzene	0.15		0.038		mg/Kg		01/15/25 09:05	01/15/25 15:09	1
Toluene	0.054		0.038		mg/Kg		01/15/25 09:05	01/15/25 15:09	1
Xylenes, Total	0.98		0.077		mg/Kg		01/15/25 09:05	01/15/25 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*48 - 145*	*01/15/25 09:05*	*01/15/25 15:09*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	210	F2	9.8		mg/Kg		01/15/25 10:50	01/16/25 17:56	1
Motor Oil Range Organics [C28-C40]	100		49		mg/Kg		01/15/25 10:50	01/16/25 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*01/15/25 10:50*	*01/16/25 17:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		60		mg/Kg		01/15/25 09:57	01/15/25 15:02	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Client Sample ID: BS 24-25 8'

Date Collected: 01/13/25 09:30
Date Received: 01/15/25 08:00

Lab Sample ID: 885-18377-2

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	11		4.6		mg/Kg		01/15/25 09:05	01/15/25 14:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*151*		*35 - 166*	*01/15/25 09:05*	*01/15/25 14:45*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		01/15/25 09:05	01/15/25 14:45	1
Ethylbenzene	0.10		0.046		mg/Kg		01/15/25 09:05	01/15/25 14:45	1
Toluene	ND		0.046		mg/Kg		01/15/25 09:05	01/15/25 14:45	1
Xylenes, Total	0.70		0.093		mg/Kg		01/15/25 09:05	01/15/25 14:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*48 - 145*	*01/15/25 09:05*	*01/15/25 14:45*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	140		10		mg/Kg		01/15/25 10:50	01/16/25 18:27	1
Motor Oil Range Organics [C28-C40]	110		50		mg/Kg		01/15/25 10:50	01/16/25 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*01/15/25 10:50*	*01/16/25 18:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		60		mg/Kg		01/15/25 09:57	01/15/25 15:33	20

Client Sample Results

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: BS 24-39 7'
Lab Sample ID: 885-18377-3
Date Collected: 01/13/25 10:00
Matrix: Solid
Date Received: 01/15/25 08:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	12		3.7		mg/Kg		01/15/25 09:05	01/15/25 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*154*		*35 - 166*	*01/15/25 09:05*	*01/15/25 11:59*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/15/25 09:05	01/15/25 11:59	1
Ethylbenzene	0.076		0.037		mg/Kg		01/15/25 09:05	01/15/25 11:59	1
Toluene	0.038		0.037		mg/Kg		01/15/25 09:05	01/15/25 11:59	1
Xylenes, Total	0.50		0.075		mg/Kg		01/15/25 09:05	01/15/25 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*48 - 145*	*01/15/25 09:05*	*01/15/25 11:59*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	160		9.7		mg/Kg		01/15/25 10:50	01/16/25 18:38	1
Motor Oil Range Organics [C28-C40]	98		48		mg/Kg		01/15/25 10:50	01/16/25 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*01/15/25 10:50*	*01/16/25 18:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		60		mg/Kg		01/15/25 09:57	01/15/25 15:44	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Client Sample ID: WS 24-64 5-8'

Date Collected: 01/13/25 10:30
Date Received: 01/15/25 08:00

Lab Sample ID: 885-18377-4

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**20**		3.6		mg/Kg		01/15/25 09:05	01/15/25 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*184*	*S1+*	*35 - 166*	*01/15/25 09:05*	*01/15/25 12:23*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/15/25 09:05	01/15/25 12:23	1
Ethylbenzene	**0.14**		0.036		mg/Kg		01/15/25 09:05	01/15/25 12:23	1
Toluene	**0.047**		0.036		mg/Kg		01/15/25 09:05	01/15/25 12:23	1
Xylenes, Total	**0.96**		0.072		mg/Kg		01/15/25 09:05	01/15/25 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*48 - 145*	*01/15/25 09:05*	*01/15/25 12:23*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**410**		9.6		mg/Kg		01/15/25 10:50	01/16/25 18:49	1
Motor Oil Range Organics [C28-C40]	**240**		48		mg/Kg		01/15/25 10:50	01/16/25 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*01/15/25 10:50*	*01/16/25 18:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**310**		60		mg/Kg		01/15/25 09:57	01/15/25 15:54	20

Client Sample Results

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: WS 24-70 0-4'
Lab Sample ID: 885-18377-5
Date Collected: 01/13/25 11:00
Matrix: Solid
Date Received: 01/15/25 08:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	22		3.9		mg/Kg		01/15/25 09:05	01/15/25 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*186*	*S1+*	*35 - 166*	*01/15/25 09:05*	*01/15/25 15:57*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		01/15/25 09:05	01/15/25 15:57	1
Ethylbenzene	0.20		0.039		mg/Kg		01/15/25 09:05	01/15/25 15:57	1
Toluene	0.12		0.039		mg/Kg		01/15/25 09:05	01/15/25 15:57	1
Xylenes, Total	1.3		0.079		mg/Kg		01/15/25 09:05	01/15/25 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*48 - 145*	*01/15/25 09:05*	*01/15/25 15:57*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	310		10		mg/Kg		01/15/25 10:50	01/16/25 18:59	1
Motor Oil Range Organics [C28-C40]	170		50		mg/Kg		01/15/25 10:50	01/16/25 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*01/15/25 10:50*	*01/16/25 18:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	680		60		mg/Kg		01/15/25 09:57	01/15/25 16:04	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Client Sample ID: WS 24-71 4-6'

Date Collected: 01/13/25 11:30
Date Received: 01/15/25 08:00

Lab Sample ID: 885-18377-6

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**9.4**		3.8		mg/Kg		01/15/25 09:05	01/15/25 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*146*		*35 - 166*	*01/15/25 09:05*	*01/15/25 13:10*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/15/25 09:05	01/15/25 13:10	1
Ethylbenzene	**0.058**		0.038		mg/Kg		01/15/25 09:05	01/15/25 13:10	1
Toluene	ND		0.038		mg/Kg		01/15/25 09:05	01/15/25 13:10	1
Xylenes, Total	**0.38**		0.075		mg/Kg		01/15/25 09:05	01/15/25 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*48 - 145*	*01/15/25 09:05*	*01/15/25 13:10*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**140**		9.9		mg/Kg		01/15/25 10:50	01/16/25 19:10	1
Motor Oil Range Organics [C28-C40]	**92**		50		mg/Kg		01/15/25 10:50	01/16/25 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*114*		*62 - 134*	*01/15/25 10:50*	*01/16/25 19:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**		60		mg/Kg		01/15/25 09:57	01/15/25 16:15	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Client Sample ID: WS 25-76 6-7'

Date Collected: 01/13/25 12:00
Date Received: 01/15/25 08:00

Lab Sample ID: 885-18377-7

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**8.1**		4.3		mg/Kg		01/15/25 09:05	01/15/25 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*142*		*35 - 166*	*01/15/25 09:05*	*01/15/25 13:34*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/15/25 09:05	01/15/25 13:34	1
Ethylbenzene	**0.056**		0.043		mg/Kg		01/15/25 09:05	01/15/25 13:34	1
Toluene	ND		0.043		mg/Kg		01/15/25 09:05	01/15/25 13:34	1
Xylenes, Total	**0.37**		0.085		mg/Kg		01/15/25 09:05	01/15/25 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*48 - 145*	*01/15/25 09:05*	*01/15/25 13:34*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**51**		9.6		mg/Kg		01/15/25 10:50	01/16/25 19:21	1
Motor Oil Range Organics [C28-C40]	**63**		48		mg/Kg		01/15/25 10:50	01/16/25 19:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*01/15/25 10:50*	*01/16/25 19:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/15/25 09:57	01/15/25 16:25	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Client Sample ID: WS 25-77 5-6

Date Collected: 01/13/25 12:30
Date Received: 01/15/25 08:00

Lab Sample ID: 885-18377-8

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	19		3.5		mg/Kg		01/15/25 09:05	01/15/25 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*179*	*S1+*	*35 - 166*	*01/15/25 09:05*	*01/15/25 13:58*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/15/25 09:05	01/15/25 13:58	1
Ethylbenzene	0.14		0.035		mg/Kg		01/15/25 09:05	01/15/25 13:58	1
Toluene	0.060		0.035		mg/Kg		01/15/25 09:05	01/15/25 13:58	1
Xylenes, Total	0.98		0.071		mg/Kg		01/15/25 09:05	01/15/25 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*48 - 145*	*01/15/25 09:05*	*01/15/25 13:58*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	470		9.9		mg/Kg		01/15/25 10:50	01/16/25 19:31	1
Motor Oil Range Organics [C28-C40]	240		49		mg/Kg		01/15/25 10:50	01/16/25 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*116*		*62 - 134*	*01/15/25 10:50*	*01/16/25 19:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	280	F2	60		mg/Kg		01/15/25 12:08	01/15/25 15:19	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19339/1-A
Matrix: Solid
Analysis Batch: 19336

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19339

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/15/25 09:05	01/15/25 10:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/15/25 09:05*	*01/15/25 10:48*	*1*

Lab Sample ID: LCS 885-19339/2-A
Matrix: Solid
Analysis Batch: 19336

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19339

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.4		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*197*		*35 - 166*

Lab Sample ID: 885-18377-1 MS
Matrix: Solid
Analysis Batch: 19336

Client Sample ID: BS 24-29 7'
Prep Type: Total/NA
Prep Batch: 19339

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	18		19.2	39.9		mg/Kg		115	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*297*	*S1+*	*35 - 166*

Lab Sample ID: 885-18377-1 MSD
Matrix: Solid
Analysis Batch: 19336

Client Sample ID: BS 24-29 7'
Prep Type: Total/NA
Prep Batch: 19339

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	18		19.2	37.4		mg/Kg		102	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*300*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19339/1-A
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19339

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/15/25 09:05	01/15/25 10:48	1
Ethylbenzene	ND		0.050		mg/Kg		01/15/25 09:05	01/15/25 10:48	1
Toluene	ND		0.050		mg/Kg		01/15/25 09:05	01/15/25 10:48	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-19339/1-A
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19339

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/15/25 09:05	01/15/25 10:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*48 - 145*	*01/15/25 09:05*	*01/15/25 10:48*	*1*

Lab Sample ID: LCS 885-19339/3-A
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19339

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.08		mg/Kg		108	70 - 130		
Ethylbenzene			1.00	1.10		mg/Kg		110	70 - 130		
m&p-Xylene			2.00	2.16		mg/Kg		108	70 - 130		
o-Xylene			1.00	1.08		mg/Kg		108	70 - 130		
Toluene			1.00	1.09		mg/Kg		109	70 - 130		
Xylenes, Total			3.00	3.24		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*48 - 145*

Lab Sample ID: 885-18377-2 MS
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: BS 24-25 8'
Prep Type: Total/NA
Prep Batch: 19339

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.927	1.03		mg/Kg		111	70 - 130		
Ethylbenzene	0.10		0.927	1.18		mg/Kg		116	70 - 130		
m&p-Xylene	0.48		1.85	2.60		mg/Kg		114	70 - 130		
o-Xylene	0.21		0.927	1.26		mg/Kg		113	70 - 130		
Toluene	ND		0.927	1.09		mg/Kg		114	70 - 130		
Xylenes, Total	0.70		2.78	3.86		mg/Kg		114	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*48 - 145*

Lab Sample ID: 885-18377-2 MSD
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: BS 24-25 8'
Prep Type: Total/NA
Prep Batch: 19339

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.927	1.00		mg/Kg		108	70 - 130	3	20
Ethylbenzene	0.10		0.927	1.15		mg/Kg		113	70 - 130	2	20
m&p-Xylene	0.48		1.85	2.55		mg/Kg		111	70 - 130	2	20
o-Xylene	0.21		0.927	1.23		mg/Kg		110	70 - 130	2	20
Toluene	ND		0.927	1.06		mg/Kg		110	70 - 130	3	20
Xylenes, Total	0.70		2.78	3.78		mg/Kg		111	70 - 130	2	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-18377-2 MSD
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: BS 24-25 8'
Prep Type: Total/NA
Prep Batch: 19339

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*118*		*48 - 145*

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-19356/1-A
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19356

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/15/25 10:50	01/16/25 17:34	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/15/25 10:50	01/16/25 17:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*01/15/25 10:50*	*01/16/25 17:34*	*1*

Lab Sample ID: LCS 885-19356/2-A
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19356

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	59.2		mg/Kg		118	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*

Lab Sample ID: 885-18377-1 MS
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: BS 24-29 7'
Prep Type: Total/NA
Prep Batch: 19356

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	210	F2	48.9	429	4	mg/Kg		452	44 - 136		

Surrogate	MS %Recovery	MS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*132*		*62 - 134*

Lab Sample ID: 885-18377-1 MSD
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: BS 24-29 7'
Prep Type: Total/NA
Prep Batch: 19356

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	210	F2	47.1	273	4 F2	mg/Kg		138	44 - 136	44	32

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-19348/1-A
Matrix: Solid
Analysis Batch: 19352

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19348

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/15/25 09:57	01/15/25 11:10	1

Lab Sample ID: LCS 885-19348/2-A
Matrix: Solid
Analysis Batch: 19352

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19348

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	30.8		mg/Kg		103	90 - 110		

Lab Sample ID: MB 885-19363/1-A
Matrix: Solid
Analysis Batch: 19342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19363

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/15/25 12:08	01/15/25 15:00	1

Lab Sample ID: LCS 885-19363/2-A
Matrix: Solid
Analysis Batch: 19342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19363

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.1		mg/Kg		94	90 - 110		

QC Association Summary

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

GC VOA

Analysis Batch: 19336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	8015D	19339
885-18377-2	BS 24-25 8'	Total/NA	Solid	8015D	19339
885-18377-3	BS 24-39 7'	Total/NA	Solid	8015D	19339
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	8015D	19339
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	8015D	19339
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	8015D	19339
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	8015D	19339
885-18377-8	WS 25-77 5-6	Total/NA	Solid	8015D	19339
MB 885-19339/1-A	Method Blank	Total/NA	Solid	8015D	19339
LCS 885-19339/2-A	Lab Control Sample	Total/NA	Solid	8015D	19339
885-18377-1 MS	BS 24-29 7'	Total/NA	Solid	8015D	19339
885-18377-1 MSD	BS 24-29 7'	Total/NA	Solid	8015D	19339

Analysis Batch: 19337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	8021B	19339
885-18377-2	BS 24-25 8'	Total/NA	Solid	8021B	19339
885-18377-3	BS 24-39 7'	Total/NA	Solid	8021B	19339
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	8021B	19339
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	8021B	19339
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	8021B	19339
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	8021B	19339
885-18377-8	WS 25-77 5-6	Total/NA	Solid	8021B	19339
MB 885-19339/1-A	Method Blank	Total/NA	Solid	8021B	19339
LCS 885-19339/3-A	Lab Control Sample	Total/NA	Solid	8021B	19339
885-18377-2 MS	BS 24-25 8'	Total/NA	Solid	8021B	19339
885-18377-2 MSD	BS 24-25 8'	Total/NA	Solid	8021B	19339

Prep Batch: 19339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	5035	
885-18377-2	BS 24-25 8'	Total/NA	Solid	5035	
885-18377-3	BS 24-39 7'	Total/NA	Solid	5035	
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	5035	
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	5035	
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	5035	
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	5035	
885-18377-8	WS 25-77 5-6	Total/NA	Solid	5035	
MB 885-19339/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19339/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19339/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-18377-1 MS	BS 24-29 7'	Total/NA	Solid	5035	
885-18377-1 MSD	BS 24-29 7'	Total/NA	Solid	5035	
885-18377-2 MS	BS 24-25 8'	Total/NA	Solid	5035	
885-18377-2 MSD	BS 24-25 8'	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 19335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	8015M/D	19356

QC Association Summary

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

GC Semi VOA (Continued)

Analysis Batch: 19335 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-2	BS 24-25 8'	Total/NA	Solid	8015M/D	19356
885-18377-3	BS 24-39 7'	Total/NA	Solid	8015M/D	19356
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	8015M/D	19356
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	8015M/D	19356
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	8015M/D	19356
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	8015M/D	19356
885-18377-8	WS 25-77 5-6	Total/NA	Solid	8015M/D	19356
MB 885-19356/1-A	Method Blank	Total/NA	Solid	8015M/D	19356
LCS 885-19356/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	19356
885-18377-1 MS	BS 24-29 7'	Total/NA	Solid	8015M/D	19356
885-18377-1 MSD	BS 24-29 7'	Total/NA	Solid	8015M/D	19356

Prep Batch: 19356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	SHAKE	
885-18377-2	BS 24-25 8'	Total/NA	Solid	SHAKE	
885-18377-3	BS 24-39 7'	Total/NA	Solid	SHAKE	
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	SHAKE	
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	SHAKE	
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	SHAKE	
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	SHAKE	
885-18377-8	WS 25-77 5-6	Total/NA	Solid	SHAKE	
MB 885-19356/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-19356/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-18377-1 MS	BS 24-29 7'	Total/NA	Solid	SHAKE	
885-18377-1 MSD	BS 24-29 7'	Total/NA	Solid	SHAKE	

HPLC/IC

Analysis Batch: 19342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-8	WS 25-77 5-6	Total/NA	Solid	300.0	19363
MB 885-19363/1-A	Method Blank	Total/NA	Solid	300.0	19363
LCS 885-19363/2-A	Lab Control Sample	Total/NA	Solid	300.0	19363

Prep Batch: 19348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	300_Prep	
885-18377-2	BS 24-25 8'	Total/NA	Solid	300_Prep	
885-18377-3	BS 24-39 7'	Total/NA	Solid	300_Prep	
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	300_Prep	
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	300_Prep	
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	300_Prep	
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	300_Prep	
MB 885-19348/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19348/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	300.0	19348
885-18377-2	BS 24-25 8'	Total/NA	Solid	300.0	19348

QC Association Summary

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

HPLC/IC (Continued)

Analysis Batch: 19352 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-3	BS 24-39 7'	Total/NA	Solid	300.0	19348
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	300.0	19348
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	300.0	19348
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	300.0	19348
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	300.0	19348
MB 885-19348/1-A	Method Blank	Total/NA	Solid	300.0	19348
LCS 885-19348/2-A	Lab Control Sample	Total/NA	Solid	300.0	19348

Prep Batch: 19363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-8	WS 25-77 5-6	Total/NA	Solid	300_Prep	
MB 885-19363/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19363/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Lab Chronicle

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: BS 24-29 7'
Lab Sample ID: 885-18377-1
Date Collected: 01/13/25 09:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 15:09
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 15:09
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 17:56
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 15:02

Client Sample ID: BS 24-25 8'
Lab Sample ID: 885-18377-2
Date Collected: 01/13/25 09:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 14:45
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 14:45
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 18:27
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 15:33

Client Sample ID: BS 24-39 7'
Lab Sample ID: 885-18377-3
Date Collected: 01/13/25 10:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 11:59
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 11:59
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 18:38
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 15:44

Client Sample ID: WS 24-64 5-8'
Lab Sample ID: 885-18377-4
Date Collected: 01/13/25 10:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 12:23

Lab Chronicle

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: WS 24-64 5-8'
Lab Sample ID: 885-18377-4
Date Collected: 01/13/25 10:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 12:23
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 18:49
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 15:54

Client Sample ID: WS 24-70 0-4'
Lab Sample ID: 885-18377-5
Date Collected: 01/13/25 11:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 15:57
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 15:57
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 18:59
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 16:04

Client Sample ID: WS 24-71 4-6'
Lab Sample ID: 885-18377-6
Date Collected: 01/13/25 11:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 13:10
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 13:10
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 19:10
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 16:15

Client Sample ID: WS 25-76 6-7'
Lab Sample ID: 885-18377-7
Date Collected: 01/13/25 12:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 13:34
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 13:34

Lab Chronicle

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: WS 25-76 6-7'
Lab Sample ID: 885-18377-7
Date Collected: 01/13/25 12:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 19:21
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 16:25

Client Sample ID: WS 25-77 5-6
Lab Sample ID: 885-18377-8
Date Collected: 01/13/25 12:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 13:58
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 13:58
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 19:31
Total/NA	Prep	300_Prep			19363	JT	EET ALB	01/15/25 12:08
Total/NA	Analysis	300.0		20	19342	JT	EET ALB	01/15/25 15:19

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: ~~Enrich~~ Vertex
bill to Solaris

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 24 Hour

Project Name: Endurance Ine lariat

Project #: 24E-03247

Project Manager: Cdixon@vertexca.
Chance dixon

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: mod

Cooler Temp(including CF): 1.5-0.2=1.3 (°C)

HALL ENVIRONM ANALYSIS LABOI
885-18377 COC
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.	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)
1113/25	9:00	Soil	BS24-29 7'	Soil	ICE		X	X					X			
	9:30		BS24-25 8'													
	10:00		BS24-39 7'													
	10:30		~~BS~~WS24-64 5-8'													
	11:00		WS24-70 0-4'													
	11:30		WS24-71 4-6'													
	~~12:00~~		~~WS24-76 6-7'~~													
	~~12:30~~		~~WS24-77 5-6'~~													
	12:00		WS25-76 6-7'													
	12 30		WS25-77 5-6'													

Date	Time	Relinquished by	Received by	Via	Date	Time
1/13	5:00	Katrina Taylor			1/14/25	1215
1/14/25	1910			courier	1/15/25	8:00

Remarks: Bill to Vertex Solaris
ATTN. Rob Kirk (rob.kirk@arswater.com
CC. Cdixon@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18377-1

Login Number: 18377 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Alderette, Joseph

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/2/2025 2:23:46 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-17201-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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1/2/2025 2:23:46 PM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-17201-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
E	Result exceeded calibration range.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-17201-1

Job ID: 885-17201-1 Eurofins Albuquerque

Job Narrative
885-17201-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/18/2024 7:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.9°C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

Gasoline Range Organics
Method 8015D_GRO: Surrogate recovery for the following samples were outside control limits: BS24-30 4' (885-17201-4), BS24-31 4' (885-17201-5), BS24-32 4' (885-17201-6) and BS24-33 4' (885-17201-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: BS24-30 4' (885-17201-4), BS24-32 4' (885-17201-6) and BS24-33 4' (885-17201-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: BS24-32 4' (885-17201-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The following sample was diluted due to the nature of the sample matrix and abundance of target analytes : BS24-32 4' (885-17201-6). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method 8015D_DRO: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 885-18102 and analytical batch 885-18344 recovered outside control limits for the following analytes: Diesel Range Organics [C10-C28]. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8015D_DRO: The following samples required a dilution due to the nature of the sample matrix: BS24-30 4' (885-17201-4), BS24-31 4' (885-17201-5) and BS24-33 4' (885-17201-7). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-26 9'
Lab Sample ID: 885-17201-1
Date Collected: 12/16/24 11:30
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/18/24 15:46	12/21/24 11:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*12/18/24 15:46*	*12/21/24 11:30*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/18/24 15:46	12/21/24 11:30	1
Ethylbenzene	ND		0.050		mg/Kg		12/18/24 15:46	12/21/24 11:30	1
Toluene	ND		0.050		mg/Kg		12/18/24 15:46	12/21/24 11:30	1
Xylenes, Total	ND		0.10		mg/Kg		12/18/24 15:46	12/21/24 11:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*12/18/24 15:46*	*12/21/24 11:30*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND	*+	9.5		mg/Kg		12/19/24 10:39	12/24/24 10:37	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		12/19/24 10:39	12/24/24 10:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*12/19/24 10:39*	*12/24/24 10:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7000**		300		mg/Kg		12/19/24 11:10	12/20/24 11:57	100

Client Sample Results

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-27 9'
Lab Sample ID: 885-17201-2
Date Collected: 12/16/24 12:00
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/18/24 15:46	12/21/24 12:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*35 - 166*	*12/18/24 15:46*	*12/21/24 12:41*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/18/24 15:46	12/21/24 12:41	1
Ethylbenzene	ND		0.050		mg/Kg		12/18/24 15:46	12/21/24 12:41	1
Toluene	ND		0.050		mg/Kg		12/18/24 15:46	12/21/24 12:41	1
Xylenes, Total	ND		0.099		mg/Kg		12/18/24 15:46	12/21/24 12:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*12/18/24 15:46*	*12/21/24 12:41*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**20**		9.7		mg/Kg		12/26/24 13:30	12/27/24 17:07	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		12/26/24 13:30	12/27/24 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*	*12/26/24 13:30*	*12/27/24 17:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8000**		300		mg/Kg		12/19/24 11:10	12/20/24 12:07	100

Client Sample Results

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-28 9'
Lab Sample ID: 885-17201-3
Date Collected: 12/16/24 12:30
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		12/18/24 15:46	12/21/24 13:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*35 - 166*	*12/18/24 15:46*	*12/21/24 13:52*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/18/24 15:46	12/21/24 13:52	1
Ethylbenzene	ND		0.047		mg/Kg		12/18/24 15:46	12/21/24 13:52	1
Toluene	ND		0.047		mg/Kg		12/18/24 15:46	12/21/24 13:52	1
Xylenes, Total	ND		0.094		mg/Kg		12/18/24 15:46	12/21/24 13:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*12/18/24 15:46*	*12/21/24 13:52*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND	*+	10		mg/Kg		12/19/24 10:39	12/24/24 10:59	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/19/24 10:39	12/24/24 10:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*12/19/24 10:39*	*12/24/24 10:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4700**		150		mg/Kg		12/19/24 11:10	12/20/24 12:16	50

Client Sample Results

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-30 4'
Lab Sample ID: 885-17201-4
Date Collected: 12/16/24 13:00
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	130		5.0		mg/Kg		12/18/24 15:46	12/21/24 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*417*	*S1+*	*35 - 166*	*12/18/24 15:46*	*12/21/24 14:15*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/18/24 15:46	12/21/24 14:15	1
Ethylbenzene	0.43		0.050		mg/Kg		12/18/24 15:46	12/21/24 14:15	1
Toluene	0.18		0.050		mg/Kg		12/18/24 15:46	12/21/24 14:15	1
Xylenes, Total	5.8		0.099		mg/Kg		12/18/24 15:46	12/21/24 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*172*	*S1+*	*48 - 145*	*12/18/24 15:46*	*12/21/24 14:15*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3200		95		mg/Kg		12/26/24 13:30	12/30/24 18:57	10
Motor Oil Range Organics [C28-C40]	1100		480		mg/Kg		12/26/24 13:30	12/30/24 18:57	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*0*	*S1- D*	*62 - 134*	*12/26/24 13:30*	*12/30/24 18:57*	*10*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	590		60		mg/Kg		12/19/24 11:10	12/19/24 18:52	20

Client Sample Results

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-31 4'
Lab Sample ID: 885-17201-5
Date Collected: 12/16/24 13:30
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**65**		4.6		mg/Kg		12/18/24 15:46	12/21/24 14:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*423*	*S1+*	*35 - 166*	*12/18/24 15:46*	*12/21/24 14:39*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/18/24 15:46	12/21/24 14:39	1
Ethylbenzene	**0.16**		0.046		mg/Kg		12/18/24 15:46	12/21/24 14:39	1
Toluene	ND		0.046		mg/Kg		12/18/24 15:46	12/21/24 14:39	1
Xylenes, Total	**0.91**		0.092		mg/Kg		12/18/24 15:46	12/21/24 14:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*12/18/24 15:46*	*12/21/24 14:39*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1100**		95		mg/Kg		12/26/24 13:30	12/30/24 19:08	10
Motor Oil Range Organics [C28-C40]	**510**		480		mg/Kg		12/26/24 13:30	12/30/24 19:08	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*0*	*S1- D*	*62 - 134*	*12/26/24 13:30*	*12/30/24 19:08*	*10*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**		150		mg/Kg		12/19/24 11:10	12/20/24 12:26	50

Client Sample Results

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-32 4'
Lab Sample ID: 885-17201-6
Date Collected: 12/16/24 14:00
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	250		4.8		mg/Kg		12/18/24 15:46	12/21/24 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*797*	*S1+*	*35 - 166*	*12/18/24 15:46*	*12/21/24 15:03*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/18/24 15:46	12/21/24 15:03	1
Ethylbenzene	0.41		0.048		mg/Kg		12/18/24 15:46	12/21/24 15:03	1
Toluene	0.16		0.048		mg/Kg		12/18/24 15:46	12/21/24 15:03	1
Xylenes, Total	13		0.19		mg/Kg		12/18/24 15:46	12/23/24 17:18	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*261*	*S1+*	*48 - 145*	*12/18/24 15:46*	*12/21/24 15:03*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3500		100		mg/Kg		12/19/24 10:31	12/20/24 12:27	10
Motor Oil Range Organics [C28-C40]	1100		500		mg/Kg		12/19/24 10:31	12/20/24 12:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*0*	*D S1-*	*62 - 134*	*12/19/24 10:31*	*12/20/24 12:27*	*10*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6100		300		mg/Kg		12/19/24 11:10	12/20/24 12:36	100

Client Sample Results

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-33 4'
Lab Sample ID: 885-17201-7
Date Collected: 12/16/24 14:30
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	120		4.7		mg/Kg		12/18/24 15:46	12/21/24 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*461*	*S1+*	*35 - 166*	*12/18/24 15:46*	*12/21/24 15:50*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/18/24 15:46	12/21/24 15:50	1
Ethylbenzene	0.33		0.047		mg/Kg		12/18/24 15:46	12/21/24 15:50	1
Toluene	0.33		0.047		mg/Kg		12/18/24 15:46	12/21/24 15:50	1
Xylenes, Total	6.4		0.093		mg/Kg		12/18/24 15:46	12/21/24 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*167*	*S1+*	*48 - 145*	*12/18/24 15:46*	*12/21/24 15:50*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3400		99		mg/Kg		12/19/24 10:31	12/30/24 19:18	10
Motor Oil Range Organics [C28-C40]	1200		500		mg/Kg		12/19/24 10:31	12/30/24 19:18	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*0*	*S1- D*	*62 - 134*	*12/19/24 10:31*	*12/30/24 19:18*	*10*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5100		150		mg/Kg		12/19/24 11:10	12/20/24 12:46	50

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17201-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18059/1-A
Matrix: Solid
Analysis Batch: 18273

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18059

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/18/24 15:46	12/21/24 11:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*12/18/24 15:46*	*12/21/24 11:07*	*1*

Lab Sample ID: LCS 885-18059/2-A
Matrix: Solid
Analysis Batch: 18273

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18059

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.5		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*184*		*35 - 166*

Lab Sample ID: 885-17201-1 MS
Matrix: Solid
Analysis Batch: 18273

Client Sample ID: BS24-26 9'
Prep Type: Total/NA
Prep Batch: 18059

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		24.9	24.1		mg/Kg		97	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*201*		*35 - 166*

Lab Sample ID: 885-17201-1 MSD
Matrix: Solid
Analysis Batch: 18273

Client Sample ID: BS24-26 9'
Prep Type: Total/NA
Prep Batch: 18059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		24.7	23.2		mg/Kg		94	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*203*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18059/1-A
Matrix: Solid
Analysis Batch: 18272

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18059

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/18/24 15:46	12/21/24 11:07	1
Ethylbenzene	ND		0.050		mg/Kg		12/18/24 15:46	12/21/24 11:07	1
Toluene	ND		0.050		mg/Kg		12/18/24 15:46	12/21/24 11:07	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17201-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-18059/1-A
Matrix: Solid
Analysis Batch: 18272

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18059

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		12/18/24 15:46	12/21/24 11:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*48 - 145*	*12/18/24 15:46*	*12/21/24 11:07*	*1*

Lab Sample ID: LCS 885-18059/3-A
Matrix: Solid
Analysis Batch: 18272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18059

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.10		mg/Kg		110	70 - 130		
Ethylbenzene			1.00	1.11		mg/Kg		111	70 - 130		
m,p-Xylene			2.00	2.19		mg/Kg		109	70 - 130		
o-Xylene			1.00	1.07		mg/Kg		107	70 - 130		
Toluene			1.00	1.13		mg/Kg		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*

Lab Sample ID: 885-17201-2 MS
Matrix: Solid
Analysis Batch: 18272

Client Sample ID: BS24-27 9'
Prep Type: Total/NA
Prep Batch: 18059

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.991	1.13		mg/Kg		114	70 - 130		
Ethylbenzene	ND		0.991	1.16		mg/Kg		117	70 - 130		
m,p-Xylene	ND		1.98	2.26		mg/Kg		114	70 - 130		
o-Xylene	ND		0.991	1.11		mg/Kg		112	70 - 130		
Toluene	ND		0.991	1.16		mg/Kg		117	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*

Lab Sample ID: 885-17201-2 MSD
Matrix: Solid
Analysis Batch: 18272

Client Sample ID: BS24-27 9'
Prep Type: Total/NA
Prep Batch: 18059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.990	1.10		mg/Kg		111	70 - 130	3	20
Ethylbenzene	ND		0.990	1.13		mg/Kg		114	70 - 130	2	20
m,p-Xylene	ND		1.98	2.23		mg/Kg		112	70 - 130	2	20
o-Xylene	ND		0.990	1.08		mg/Kg		109	70 - 130	2	20
Toluene	ND		0.990	1.14		mg/Kg		115	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17201-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18100/1-A
Matrix: Solid
Analysis Batch: 18098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18100

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		12/19/24 10:31	12/19/24 13:31	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/19/24 10:31	12/19/24 13:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*90*		*62 - 134*	*12/19/24 10:31*	*12/19/24 13:31*	*1*

Lab Sample ID: LCS 885-18100/2-A
Matrix: Solid
Analysis Batch: 18098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18100

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	45.2		mg/Kg		90	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*87*		*62 - 134*

Lab Sample ID: 885-17201-A-6-C MS
Matrix: Solid
Analysis Batch: 18098

Client Sample ID: 885-17201-A-6-C MS
Prep Type: Total/NA
Prep Batch: 18100

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	2500	E	49.5	3720	E	mg/Kg					

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*398*	*S1+*	*62 - 134*

Lab Sample ID: MB 885-18102/1-A
Matrix: Solid
Analysis Batch: 18344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18102

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		12/19/24 10:39	12/24/24 07:05	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/19/24 10:39	12/24/24 07:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*	*12/19/24 10:39*	*12/24/24 07:05*	*1*

Lab Sample ID: LCS 885-18102/2-A
Matrix: Solid
Analysis Batch: 18344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18102

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	69.1	*+	mg/Kg		138	60 - 135		

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QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17201-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 885-18102/2-A
Matrix: Solid
Analysis Batch: 18344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18102

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	135	S1+	62 - 134

Lab Sample ID: MB 885-18473/1-A
Matrix: Solid
Analysis Batch: 18502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18473

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		12/26/24 13:30	12/27/24 16:45	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/26/24 13:30	12/27/24 16:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	102		62 - 134	12/26/24 13:30	12/27/24 16:45	1

Lab Sample ID: LCS 885-18473/2-A
Matrix: Solid
Analysis Batch: 18502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18473

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	45.5		mg/Kg		91	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	90		62 - 134

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-18108/1-A
Matrix: Solid
Analysis Batch: 18074

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18108

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		12/19/24 11:10	12/19/24 12:02	1

Lab Sample ID: LCS 885-18108/2-A
Matrix: Solid
Analysis Batch: 18074

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18108

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.6		mg/Kg		99	90 - 110		

QC Association Summary

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

GC VOA

Prep Batch: 18059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-1	BS24-26 9'	Total/NA	Solid	5030C	
885-17201-2	BS24-27 9'	Total/NA	Solid	5030C	
885-17201-3	BS24-28 9'	Total/NA	Solid	5030C	
885-17201-4	BS24-30 4'	Total/NA	Solid	5030C	
885-17201-5	BS24-31 4'	Total/NA	Solid	5030C	
885-17201-6	BS24-32 4'	Total/NA	Solid	5030C	
885-17201-7	BS24-33 4'	Total/NA	Solid	5030C	
MB 885-18059/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-18059/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-18059/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-17201-1 MS	BS24-26 9'	Total/NA	Solid	5030C	
885-17201-1 MSD	BS24-26 9'	Total/NA	Solid	5030C	
885-17201-2 MS	BS24-27 9'	Total/NA	Solid	5030C	
885-17201-2 MSD	BS24-27 9'	Total/NA	Solid	5030C	

Analysis Batch: 18272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-1	BS24-26 9'	Total/NA	Solid	8021B	18059
885-17201-2	BS24-27 9'	Total/NA	Solid	8021B	18059
885-17201-3	BS24-28 9'	Total/NA	Solid	8021B	18059
885-17201-4	BS24-30 4'	Total/NA	Solid	8021B	18059
885-17201-5	BS24-31 4'	Total/NA	Solid	8021B	18059
885-17201-6	BS24-32 4'	Total/NA	Solid	8021B	18059
885-17201-7	BS24-33 4'	Total/NA	Solid	8021B	18059
MB 885-18059/1-A	Method Blank	Total/NA	Solid	8021B	18059
LCS 885-18059/3-A	Lab Control Sample	Total/NA	Solid	8021B	18059
885-17201-2 MS	BS24-27 9'	Total/NA	Solid	8021B	18059
885-17201-2 MSD	BS24-27 9'	Total/NA	Solid	8021B	18059

Analysis Batch: 18273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-1	BS24-26 9'	Total/NA	Solid	8015M/D	18059
885-17201-2	BS24-27 9'	Total/NA	Solid	8015M/D	18059
885-17201-3	BS24-28 9'	Total/NA	Solid	8015M/D	18059
885-17201-4	BS24-30 4'	Total/NA	Solid	8015M/D	18059
885-17201-5	BS24-31 4'	Total/NA	Solid	8015M/D	18059
885-17201-6	BS24-32 4'	Total/NA	Solid	8015M/D	18059
885-17201-7	BS24-33 4'	Total/NA	Solid	8015M/D	18059
MB 885-18059/1-A	Method Blank	Total/NA	Solid	8015M/D	18059
LCS 885-18059/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	18059
885-17201-1 MS	BS24-26 9'	Total/NA	Solid	8015M/D	18059
885-17201-1 MSD	BS24-26 9'	Total/NA	Solid	8015M/D	18059

Analysis Batch: 18380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-6	BS24-32 4'	Total/NA	Solid	8021B	18059

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17201-1

GC Semi VOA

Analysis Batch: 18098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-18100/1-A	Method Blank	Total/NA	Solid	8015M/D	18100
LCS 885-18100/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	18100
885-17201-A-6-C MS	885-17201-A-6-C MS	Total/NA	Solid	8015M/D	18100

Prep Batch: 18100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-6	BS24-32 4'	Total/NA	Solid	SHAKE	
885-17201-7	BS24-33 4'	Total/NA	Solid	SHAKE	
MB 885-18100/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18100/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-17201-A-6-C MS	885-17201-A-6-C MS	Total/NA	Solid	SHAKE	

Prep Batch: 18102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-1	BS24-26 9'	Total/NA	Solid	SHAKE	
885-17201-3	BS24-28 9'	Total/NA	Solid	SHAKE	
MB 885-18102/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18102/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 18214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-6	BS24-32 4'	Total/NA	Solid	8015M/D	18100

Analysis Batch: 18344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-1	BS24-26 9'	Total/NA	Solid	8015M/D	18102
885-17201-3	BS24-28 9'	Total/NA	Solid	8015M/D	18102
MB 885-18102/1-A	Method Blank	Total/NA	Solid	8015M/D	18102
LCS 885-18102/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	18102

Prep Batch: 18473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-2	BS24-27 9'	Total/NA	Solid	SHAKE	
885-17201-4	BS24-30 4'	Total/NA	Solid	SHAKE	
885-17201-5	BS24-31 4'	Total/NA	Solid	SHAKE	
MB 885-18473/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18473/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 18502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-2	BS24-27 9'	Total/NA	Solid	8015M/D	18473
MB 885-18473/1-A	Method Blank	Total/NA	Solid	8015M/D	18473
LCS 885-18473/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	18473

Analysis Batch: 18540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-4	BS24-30 4'	Total/NA	Solid	8015M/D	18473
885-17201-5	BS24-31 4'	Total/NA	Solid	8015M/D	18473
885-17201-7	BS24-33 4'	Total/NA	Solid	8015M/D	18100

QC Association Summary

Client: Vertex Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

HPLC/IC

Analysis Batch: 18074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-4	BS24-30 4'	Total/NA	Solid	300.0	18108
MB 885-18108/1-A	Method Blank	Total/NA	Solid	300.0	18108
LCS 885-18108/2-A	Lab Control Sample	Total/NA	Solid	300.0	18108

Prep Batch: 18108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-1	BS24-26 9'	Total/NA	Solid	300_Prep	
885-17201-2	BS24-27 9'	Total/NA	Solid	300_Prep	
885-17201-3	BS24-28 9'	Total/NA	Solid	300_Prep	
885-17201-4	BS24-30 4'	Total/NA	Solid	300_Prep	
885-17201-5	BS24-31 4'	Total/NA	Solid	300_Prep	
885-17201-6	BS24-32 4'	Total/NA	Solid	300_Prep	
885-17201-7	BS24-33 4'	Total/NA	Solid	300_Prep	
MB 885-18108/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18108/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 18217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17201-1	BS24-26 9'	Total/NA	Solid	300.0	18108
885-17201-2	BS24-27 9'	Total/NA	Solid	300.0	18108
885-17201-3	BS24-28 9'	Total/NA	Solid	300.0	18108
885-17201-5	BS24-31 4'	Total/NA	Solid	300.0	18108
885-17201-6	BS24-32 4'	Total/NA	Solid	300.0	18108
885-17201-7	BS24-33 4'	Total/NA	Solid	300.0	18108

Lab Chronicle

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-26 9'
Lab Sample ID: 885-17201-1
Date Collected: 12/16/24 11:30
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8015M/D		1	18273	JP	EET ALB	12/21/24 11:30
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8021B		1	18272	JP	EET ALB	12/21/24 11:30
Total/NA	Prep	SHAKE			18102	MI	EET ALB	12/19/24 10:39
Total/NA	Analysis	8015M/D		1	18344	DH	EET ALB	12/24/24 10:37
Total/NA	Prep	300_Prep			18108	JT	EET ALB	12/19/24 11:10
Total/NA	Analysis	300.0		100	18217	RC	EET ALB	12/20/24 11:57

Client Sample ID: BS24-27 9'
Lab Sample ID: 885-17201-2
Date Collected: 12/16/24 12:00
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8015M/D		1	18273	JP	EET ALB	12/21/24 12:41
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8021B		1	18272	JP	EET ALB	12/21/24 12:41
Total/NA	Prep	SHAKE			18473	EM	EET ALB	12/26/24 13:30
Total/NA	Analysis	8015M/D		1	18502	EM	EET ALB	12/27/24 17:07
Total/NA	Prep	300_Prep			18108	JT	EET ALB	12/19/24 11:10
Total/NA	Analysis	300.0		100	18217	RC	EET ALB	12/20/24 12:07

Client Sample ID: BS24-28 9'
Lab Sample ID: 885-17201-3
Date Collected: 12/16/24 12:30
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8015M/D		1	18273	JP	EET ALB	12/21/24 13:52
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8021B		1	18272	JP	EET ALB	12/21/24 13:52
Total/NA	Prep	SHAKE			18102	MI	EET ALB	12/19/24 10:39
Total/NA	Analysis	8015M/D		1	18344	DH	EET ALB	12/24/24 10:59
Total/NA	Prep	300_Prep			18108	JT	EET ALB	12/19/24 11:10
Total/NA	Analysis	300.0		50	18217	RC	EET ALB	12/20/24 12:16

Client Sample ID: BS24-30 4'
Lab Sample ID: 885-17201-4
Date Collected: 12/16/24 13:00
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8015M/D		1	18273	JP	EET ALB	12/21/24 14:15

Lab Chronicle

Client: Vertex Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-30 4' Lab Sample ID: 885-17201-4

Date Collected: 12/16/24 13:00 **Matrix: Solid**
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8021B		1	18272	JP	EET ALB	12/21/24 14:15
Total/NA	Prep	SHAKE			18473	EM	EET ALB	12/26/24 13:30
Total/NA	Analysis	8015M/D		10	18540	EM	EET ALB	12/30/24 18:57
Total/NA	Prep	300_Prep			18108	JT	EET ALB	12/19/24 11:10
Total/NA	Analysis	300.0		20	18074	JT	EET ALB	12/19/24 18:52

Client Sample ID: BS24-31 4' Lab Sample ID: 885-17201-5

Date Collected: 12/16/24 13:30 **Matrix: Solid**
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8015M/D		1	18273	JP	EET ALB	12/21/24 14:39
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8021B		1	18272	JP	EET ALB	12/21/24 14:39
Total/NA	Prep	SHAKE			18473	EM	EET ALB	12/26/24 13:30
Total/NA	Analysis	8015M/D		10	18540	EM	EET ALB	12/30/24 19:08
Total/NA	Prep	300_Prep			18108	JT	EET ALB	12/19/24 11:10
Total/NA	Analysis	300.0		50	18217	RC	EET ALB	12/20/24 12:26

Client Sample ID: BS24-32 4' Lab Sample ID: 885-17201-6

Date Collected: 12/16/24 14:00 **Matrix: Solid**
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8015M/D		1	18273	JP	EET ALB	12/21/24 15:03
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8021B		1	18272	JP	EET ALB	12/21/24 15:03
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8021B		2	18380	JP	EET ALB	12/23/24 17:18
Total/NA	Prep	SHAKE			18100	MI	EET ALB	12/19/24 10:31
Total/NA	Analysis	8015M/D		10	18214	EM	EET ALB	12/20/24 12:27
Total/NA	Prep	300_Prep			18108	JT	EET ALB	12/19/24 11:10
Total/NA	Analysis	300.0		100	18217	RC	EET ALB	12/20/24 12:36

Client Sample ID: BS24-33 4' Lab Sample ID: 885-17201-7

Date Collected: 12/16/24 14:30 **Matrix: Solid**
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8015M/D		1	18273	JP	EET ALB	12/21/24 15:50

Lab Chronicle

Client: Vertex
Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-33 4'
Lab Sample ID: 885-17201-7
Date Collected: 12/16/24 14:30
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8021B		1	18272	JP	EET ALB	12/21/24 15:50
Total/NA	Prep	SHAKE			18100	MI	EET ALB	12/19/24 10:31
Total/NA	Analysis	8015M/D		10	18540	EM	EET ALB	12/30/24 19:18
Total/NA	Prep	300_Prep			18108	JT	EET ALB	12/19/24 11:10
Total/NA	Analysis	300.0		50	18217	RC	EET ALB	12/20/24 12:46

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17201-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (bill to Solaris Water Midstream Company)

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:
Endurance Lariat waterline

Project #:
24E-03247

Project Manager:
Chance dixon
Cdixon@vertexCa

Sampler:

On Ice: ☒ Yes ☐ No Yngi

# of Coolers: 1

Cooler Temp(Including CF): 0.6 +0.3 = 0.9 (°C)

HALL ENVIRONMENTAL ANALYSIS LABOR
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 871(
Tel. 505-345-3975 Fax 505-345-4107

885-17201 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/16	11:30	Soil	BS24-26 4' 9'	8oz 4	Ice	1										
	12:00		BS24-27 4' 9'			2										
	12:30		BS24-28 4' 9'			3										
	13:00		BS24-30 4'			4										
	13:30		BS24-31 4'			5										
	14:00		BS24-32 4'			6										
	14:30		BS24-33 4'			7										

Date	Time	Relinquished by	Received by	Via	Date	Time
12/17	8:00	Katrina Taylor			12/17/24	800
12/17/24	1900			courier	12/18/24	7:55

Remarks:
ATTN: Rob Kirk (Rob.Kirk@arisWater.com)
CC: Cdixon@vertexresource.com

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

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17201-1

Login Number: 17201 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: McQuiston, Steven

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/7/2025 2:13:24 PM

JOB DESCRIPTION

Endurance Lariat Waterline

JOB NUMBER

885-17178-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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1/7/2025 2:13:24 PM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Waterline

Laboratory Job ID: 885-17178-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
S1-	Surrogate recovery exceeds control limits, low biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Waterline

Job ID: 885-17178-1

Job ID: 885-17178-1 Eurofins Albuquerque

Job Narrative
885-17178-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/18/2024 7:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The following samples were diluted due to the nature of the sample matrix and abundance of target analytes : WS24-13 0-4 (885-17178-2), WS24-19 0-4 (885-17178-4) and WS24-20 0-4 (885-17178-5). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
Method 300_OF_28D_PREC: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 885-18025 and analytical batch 885-18045 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Client Sample ID: WS24-10 0-2
Lab Sample ID: 885-17178-1
Date Collected: 12/16/24 09:00
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	8.5		3.5		mg/Kg		12/18/24 09:19	12/18/24 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*35 - 166*	*12/18/24 09:19*	*12/18/24 15:22*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		12/18/24 09:19	12/18/24 15:22	1
Ethylbenzene	ND		0.035		mg/Kg		12/18/24 09:19	12/18/24 15:22	1
Toluene	ND		0.035		mg/Kg		12/18/24 09:19	12/18/24 15:22	1
Xylenes, Total	ND		0.069		mg/Kg		12/18/24 09:19	12/18/24 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*	*12/18/24 09:19*	*12/18/24 15:22*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1900		20		mg/Kg		12/19/24 12:14	12/19/24 15:39	2
Motor Oil Range Organics [C28-C40]	710		98		mg/Kg		12/19/24 12:14	12/19/24 15:39	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*	*12/19/24 12:14*	*12/19/24 15:39*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1000		60		mg/Kg		12/18/24 11:26	12/18/24 15:33	20

Client Sample Results

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Client Sample ID: WS24-13 0-4
Lab Sample ID: 885-17178-2
Date Collected: 12/16/24 09:30
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	7.6		3.5		mg/Kg		12/18/24 09:19	12/18/24 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*35 - 166*	*12/18/24 09:19*	*12/18/24 16:27*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		12/18/24 09:19	12/18/24 16:27	1
Ethylbenzene	ND		0.035		mg/Kg		12/18/24 09:19	12/18/24 16:27	1
Toluene	ND		0.035		mg/Kg		12/18/24 09:19	12/18/24 16:27	1
Xylenes, Total	ND		0.070		mg/Kg		12/18/24 09:19	12/18/24 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*48 - 145*	*12/18/24 09:19*	*12/18/24 16:27*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2300		47		mg/Kg		12/19/24 12:14	12/20/24 14:49	5
Motor Oil Range Organics [C28-C40]	1400		240		mg/Kg		12/19/24 12:14	12/20/24 14:49	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*0*	*D S1-*	*62 - 134*	*12/19/24 12:14*	*12/20/24 14:49*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	920		59		mg/Kg		12/18/24 11:26	12/18/24 16:02	20

Client Sample Results

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Client Sample ID: WS24-15 0-4
Lab Sample ID: 885-17178-3
Date Collected: 12/16/24 10:00
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.4		mg/Kg		12/18/24 09:19	12/18/24 18:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*35 - 166*	*12/18/24 09:19*	*12/18/24 18:15*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		12/18/24 09:19	12/18/24 18:15	1
Ethylbenzene	ND		0.034		mg/Kg		12/18/24 09:19	12/18/24 18:15	1
Toluene	ND		0.034		mg/Kg		12/18/24 09:19	12/18/24 18:15	1
Xylenes, Total	ND		0.067		mg/Kg		12/18/24 09:19	12/18/24 18:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*12/18/24 09:19*	*12/18/24 18:15*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**76**		9.3		mg/Kg		12/19/24 12:14	12/19/24 15:18	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		12/19/24 12:14	12/19/24 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*12/19/24 12:14*	*12/19/24 15:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2400**		60		mg/Kg		12/18/24 11:26	12/18/24 16:52	20

Client Sample Results

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Client Sample ID: WS24-19 0-4
Lab Sample ID: 885-17178-4
Date Collected: 12/16/24 10:30
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.2		mg/Kg		12/18/24 09:19	12/18/24 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*35 - 166*	*12/18/24 09:19*	*12/18/24 18:36*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		12/18/24 09:19	12/18/24 18:36	1
Ethylbenzene	ND		0.032		mg/Kg		12/18/24 09:19	12/18/24 18:36	1
Toluene	ND		0.032		mg/Kg		12/18/24 09:19	12/18/24 18:36	1
Xylenes, Total	ND		0.064		mg/Kg		12/18/24 09:19	12/18/24 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*12/18/24 09:19*	*12/18/24 18:36*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1200**		20		mg/Kg		12/19/24 12:14	12/20/24 15:00	2
Motor Oil Range Organics [C28-C40]	**730**		99		mg/Kg		12/19/24 12:14	12/20/24 15:00	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*0*	*D S1-*	*62 - 134*	*12/19/24 12:14*	*12/20/24 15:00*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2200**		61		mg/Kg		12/18/24 11:26	12/18/24 17:01	20

Client Sample Results

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Client Sample ID: WS24-20 0-4
Lab Sample ID: 885-17178-5
Date Collected: 12/16/24 11:00
Matrix: Solid
Date Received: 12/18/24 07:55

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	11		4.1		mg/Kg		12/18/24 09:19	12/18/24 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*152*		*35 - 166*	*12/18/24 09:19*	*12/18/24 18:58*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		12/18/24 09:19	12/18/24 18:58	1
Ethylbenzene	ND		0.041		mg/Kg		12/18/24 09:19	12/18/24 18:58	1
Toluene	ND		0.041		mg/Kg		12/18/24 09:19	12/18/24 18:58	1
Xylenes, Total	ND		0.081		mg/Kg		12/18/24 09:19	12/18/24 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*48 - 145*	*12/18/24 09:19*	*12/18/24 18:58*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	810		19		mg/Kg		12/19/24 12:14	12/20/24 15:10	2
Motor Oil Range Organics [C28-C40]	530		96		mg/Kg		12/19/24 12:14	12/20/24 15:10	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*0*	*D S1-*	*62 - 134*	*12/19/24 12:14*	*12/20/24 15:10*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5900		300		mg/Kg		12/18/24 11:26	12/19/24 16:07	100

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Waterline

Job ID: 885-17178-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-17936/1-A
Matrix: Solid
Analysis Batch: 18026

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17936

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/17/24 12:30	12/18/24 13:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*12/17/24 12:30*	*12/18/24 13:32*	*1*

Lab Sample ID: LCS 885-17936/2-A
Matrix: Solid
Analysis Batch: 18026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17936

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	27.0		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*196*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-17936/1-A
Matrix: Solid
Analysis Batch: 18027

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17936

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/17/24 12:30	12/18/24 13:32	1
Ethylbenzene	ND		0.050		mg/Kg		12/17/24 12:30	12/18/24 13:32	1
Toluene	ND		0.050		mg/Kg		12/17/24 12:30	12/18/24 13:32	1
Xylenes, Total	ND		0.10		mg/Kg		12/17/24 12:30	12/18/24 13:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*48 - 145*	*12/17/24 12:30*	*12/18/24 13:32*	*1*

Lab Sample ID: LCS 885-17936/25-A
Matrix: Solid
Analysis Batch: 18027

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17936

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.889		mg/Kg		89	70 - 130		
Ethylbenzene			1.00	0.949		mg/Kg		95	70 - 130		
m&p-Xylene			2.00	1.91		mg/Kg		96	70 - 130		
o-Xylene			1.00	0.955		mg/Kg		96	70 - 130		
Toluene			1.00	0.922		mg/Kg		92	70 - 130		
Xylenes, Total			3.00	2.87		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Waterline

Job ID: 885-17178-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-17178-1 MS
Matrix: Solid
Analysis Batch: 18027

Client Sample ID: WS24-10 0-2
Prep Type: Total/NA
Prep Batch: 17936

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.694	0.614		mg/Kg		88	70 - 130
Ethylbenzene	ND		0.694	0.646		mg/Kg		93	70 - 130
m&p-Xylene	ND		1.39	1.28		mg/Kg		90	70 - 130
o-Xylene	ND		0.694	0.646		mg/Kg		93	70 - 130
Toluene	ND		0.694	0.624		mg/Kg		90	70 - 130
Xylenes, Total	ND		2.08	1.93		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*

Lab Sample ID: 885-17178-1 MSD
Matrix: Solid
Analysis Batch: 18027

Client Sample ID: WS24-10 0-2
Prep Type: Total/NA
Prep Batch: 17936

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.694	0.603		mg/Kg		87	70 - 130	2	20
Ethylbenzene	ND		0.694	0.629		mg/Kg		91	70 - 130	3	20
m&p-Xylene	ND		1.39	1.26		mg/Kg		89	70 - 130	2	20
o-Xylene	ND		0.694	0.616		mg/Kg		89	70 - 130	5	20
Toluene	ND		0.694	0.620		mg/Kg		89	70 - 130	1	20
Xylenes, Total	ND		2.08	1.88		mg/Kg		89	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18100/1-A
Matrix: Solid
Analysis Batch: 18098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18100

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		12/19/24 10:31	12/19/24 13:31	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		12/19/24 10:31	12/19/24 13:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*90*		*62 - 134*	*12/19/24 10:31*	*12/19/24 13:31*	*1*

Lab Sample ID: LCS 885-18100/2-A
Matrix: Solid
Analysis Batch: 18098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18100

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]			50.0	45.2		mg/Kg		90	60 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*87*		*62 - 134*

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QC Sample Results

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-18025/1-A
Client Sample ID: Method Blank
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 18045
Prep Batch: 18025

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		12/18/24 11:26	12/18/24 14:34	1

Lab Sample ID: LCS 885-18025/2-A
Client Sample ID: Lab Control Sample
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 18045
Prep Batch: 18025

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.9		mg/Kg		96	90 - 110		

QC Association Summary

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

GC VOA

Prep Batch: 17936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17178-1	WS24-10 0-2	Total/NA	Solid	5035	
885-17178-2	WS24-13 0-4	Total/NA	Solid	5035	
885-17178-3	WS24-15 0-4	Total/NA	Solid	5035	
885-17178-4	WS24-19 0-4	Total/NA	Solid	5035	
885-17178-5	WS24-20 0-4	Total/NA	Solid	5035	
MB 885-17936/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-17936/25-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-17936/2-A	Lab Control Sample	Total/NA	Solid	5035	
885-17178-1 MS	WS24-10 0-2	Total/NA	Solid	5035	
885-17178-1 MSD	WS24-10 0-2	Total/NA	Solid	5035	

Analysis Batch: 18026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17178-1	WS24-10 0-2	Total/NA	Solid	8015D	17936
885-17178-2	WS24-13 0-4	Total/NA	Solid	8015D	17936
885-17178-3	WS24-15 0-4	Total/NA	Solid	8015D	17936
885-17178-4	WS24-19 0-4	Total/NA	Solid	8015D	17936
885-17178-5	WS24-20 0-4	Total/NA	Solid	8015D	17936
MB 885-17936/1-A	Method Blank	Total/NA	Solid	8015D	17936
LCS 885-17936/2-A	Lab Control Sample	Total/NA	Solid	8015D	17936

Analysis Batch: 18027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17178-1	WS24-10 0-2	Total/NA	Solid	8021B	17936
885-17178-2	WS24-13 0-4	Total/NA	Solid	8021B	17936
885-17178-3	WS24-15 0-4	Total/NA	Solid	8021B	17936
885-17178-4	WS24-19 0-4	Total/NA	Solid	8021B	17936
885-17178-5	WS24-20 0-4	Total/NA	Solid	8021B	17936
MB 885-17936/1-A	Method Blank	Total/NA	Solid	8021B	17936
LCS 885-17936/25-A	Lab Control Sample	Total/NA	Solid	8021B	17936
885-17178-1 MS	WS24-10 0-2	Total/NA	Solid	8021B	17936
885-17178-1 MSD	WS24-10 0-2	Total/NA	Solid	8021B	17936

GC Semi VOA

Analysis Batch: 18098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17178-1	WS24-10 0-2	Total/NA	Solid	8015D	18100
885-17178-3	WS24-15 0-4	Total/NA	Solid	8015D	18100
MB 885-18100/1-A	Method Blank	Total/NA	Solid	8015D	18100
LCS 885-18100/2-A	Lab Control Sample	Total/NA	Solid	8015D	18100

Prep Batch: 18100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17178-1	WS24-10 0-2	Total/NA	Solid	SHAKE	
885-17178-2	WS24-13 0-4	Total/NA	Solid	SHAKE	
885-17178-3	WS24-15 0-4	Total/NA	Solid	SHAKE	
885-17178-4	WS24-19 0-4	Total/NA	Solid	SHAKE	
885-17178-5	WS24-20 0-4	Total/NA	Solid	SHAKE	
MB 885-18100/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18100/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

GC Semi VOA

Analysis Batch: 18214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17178-2	WS24-13 0-4	Total/NA	Solid	8015D	18100
885-17178-4	WS24-19 0-4	Total/NA	Solid	8015D	18100
885-17178-5	WS24-20 0-4	Total/NA	Solid	8015D	18100

HPLC/IC

Prep Batch: 18025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17178-1	WS24-10 0-2	Total/NA	Solid	300_Prep	
885-17178-2	WS24-13 0-4	Total/NA	Solid	300_Prep	
885-17178-3	WS24-15 0-4	Total/NA	Solid	300_Prep	
885-17178-4	WS24-19 0-4	Total/NA	Solid	300_Prep	
885-17178-5	WS24-20 0-4	Total/NA	Solid	300_Prep	
MB 885-18025/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18025/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 18045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17178-1	WS24-10 0-2	Total/NA	Solid	300.0	18025
885-17178-2	WS24-13 0-4	Total/NA	Solid	300.0	18025
885-17178-3	WS24-15 0-4	Total/NA	Solid	300.0	18025
885-17178-4	WS24-19 0-4	Total/NA	Solid	300.0	18025
MB 885-18025/1-A	Method Blank	Total/NA	Solid	300.0	18025
LCS 885-18025/2-A	Lab Control Sample	Total/NA	Solid	300.0	18025

Analysis Batch: 18159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17178-5	WS24-20 0-4	Total/NA	Solid	300.0	18025

Lab Chronicle

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Client Sample ID: WS24-10 0-2
Lab Sample ID: 885-17178-1
Date Collected: 12/16/24 09:00
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8015D		1	18026	AT	EET ALB	12/18/24 15:22
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8021B		1	18027	AT	EET ALB	12/18/24 15:22
Total/NA	Prep	SHAKE			18100	MI	EET ALB	12/19/24 12:14
Total/NA	Analysis	8015D		2	18098	MI	EET ALB	12/19/24 15:39
Total/NA	Prep	300_Prep			18025	JT	EET ALB	12/18/24 11:26
Total/NA	Analysis	300.0		20	18045	EH	EET ALB	12/18/24 15:33

Client Sample ID: WS24-13 0-4
Lab Sample ID: 885-17178-2
Date Collected: 12/16/24 09:30
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8015D		1	18026	AT	EET ALB	12/18/24 16:27
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8021B		1	18027	AT	EET ALB	12/18/24 16:27
Total/NA	Prep	SHAKE			18100	MI	EET ALB	12/19/24 12:14
Total/NA	Analysis	8015D		5	18214	EM	EET ALB	12/20/24 14:49
Total/NA	Prep	300_Prep			18025	JT	EET ALB	12/18/24 11:26
Total/NA	Analysis	300.0		20	18045	EH	EET ALB	12/18/24 16:02

Client Sample ID: WS24-15 0-4
Lab Sample ID: 885-17178-3
Date Collected: 12/16/24 10:00
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8015D		1	18026	AT	EET ALB	12/18/24 18:15
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8021B		1	18027	AT	EET ALB	12/18/24 18:15
Total/NA	Prep	SHAKE			18100	MI	EET ALB	12/19/24 12:14
Total/NA	Analysis	8015D		1	18098	MI	EET ALB	12/19/24 15:18
Total/NA	Prep	300_Prep			18025	JT	EET ALB	12/18/24 11:26
Total/NA	Analysis	300.0		20	18045	EH	EET ALB	12/18/24 16:52

Client Sample ID: WS24-19 0-4
Lab Sample ID: 885-17178-4
Date Collected: 12/16/24 10:30
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8015D		1	18026	AT	EET ALB	12/18/24 18:36

Lab Chronicle

Client: Vertex
Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Client Sample ID: WS24-19 0-4
Lab Sample ID: 885-17178-4
Date Collected: 12/16/24 10:30
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8021B		1	18027	AT	EET ALB	12/18/24 18:36
Total/NA	Prep	SHAKE			18100	MI	EET ALB	12/19/24 12:14
Total/NA	Analysis	8015D		2	18214	EM	EET ALB	12/20/24 15:00
Total/NA	Prep	300_Prep			18025	JT	EET ALB	12/18/24 11:26
Total/NA	Analysis	300.0		20	18045	EH	EET ALB	12/18/24 17:01

Client Sample ID: WS24-20 0-4
Lab Sample ID: 885-17178-5
Date Collected: 12/16/24 11:00
Matrix: Solid
Date Received: 12/18/24 07:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8015D		1	18026	AT	EET ALB	12/18/24 18:58
Total/NA	Prep	5035			17936	JP	EET ALB	12/18/24 09:19
Total/NA	Analysis	8021B		1	18027	AT	EET ALB	12/18/24 18:58
Total/NA	Prep	SHAKE			18100	MI	EET ALB	12/19/24 12:14
Total/NA	Analysis	8015D		2	18214	EM	EET ALB	12/20/24 15:10
Total/NA	Prep	300_Prep			18025	JT	EET ALB	12/18/24 11:26
Total/NA	Analysis	300.0		100	18159	MA	EET ALB	12/19/24 16:07

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17178-1
Project/Site: Endurance Lariat Waterline

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (bill to Solaris)

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 ~~48hr~~ 24hr

Project Name: Endurance Lariat waterline

Project #: 24E-0347

Project Manager: Chance dixon
Cdixon@vertex.ca

Sampler:
On Ice: ☑ Yes ☐ No Y(G)
# of Coolers: 1
Cooler Temp(including CF): 1.6+0.3=1.9 (°C)

HALL ENVIRONMI
ANALYSIS LABOR
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 8710
Tel. 505-345-3975 Fax 505-345-4107

885-17178 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/16	9:00	Soil	WS24-10 0-~~#~~2	~~8oz~~ 4	Ice		X									
	9:30		WS24-~~10~~ 13 0-4													
	10:00		WS24-~~10~~ 15 0-4													
	10:30		WS24-~~10~~ 19 0-4													
	~~11:00~~ 11:00		WS24-~~10~~ 20 0-4													

Date	Time:	Relinquished by:	Received by	Via:	Date	Time
12/16	8:00	Katrina Taylor			12/17/24	800
Date: 12/17/24	Time 1900	Relinquished by	Received by:	Via	Date	Time
				courier	12/19/24	755

Remarks: bill to Solaris
ATTN: Rob Kirk (rob.kirk@ariswater.com)
CC: Cdixon@vertexresource.com

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

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17178-1

Login Number: 17178 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/3/2025 11:03:29 AM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-17317-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/3/2025 11:03:29 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-17317-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17317-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-17317-1

Job ID: 885-17317-1 Eurofins Albuquerque

Job Narrative
885-17317-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/19/2024 7:34 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The following sample was diluted due to the nature of the sample matrix: WS24-21 4-9 (885-17317-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-17317-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-21 4-9
Lab Sample ID: 885-17317-1
Date Collected: 12/17/24 09:00
Matrix: Solid
Date Received: 12/19/24 07:34

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**30**		5.0		mg/Kg		12/19/24 13:07	12/21/24 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*170*	*S1+*	*35 - 166*	*12/19/24 13:07*	*12/21/24 15:01*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/19/24 13:07	12/21/24 15:01	1
Ethylbenzene	**0.10**		0.050		mg/Kg		12/19/24 13:07	12/21/24 15:01	1
Toluene	ND		0.050		mg/Kg		12/19/24 13:07	12/21/24 15:01	1
Xylenes, Total	**0.91**		0.10		mg/Kg		12/19/24 13:07	12/21/24 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*48 - 145*	*12/19/24 13:07*	*12/21/24 15:01*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1100**		44		mg/Kg		12/27/24 16:03	01/02/25 10:43	5
Motor Oil Range Organics [C28-C40]	**460**		220		mg/Kg		12/27/24 16:03	01/02/25 10:43	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*	*12/27/24 16:03*	*01/02/25 10:43*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5300**		300		mg/Kg		12/20/24 10:20	12/27/24 13:52	100

Client Sample Results

Client: Vertex
Job ID: 885-17317-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-18 4-5
Lab Sample ID: 885-17317-2
Date Collected: 12/17/24 09:30
Matrix: Solid
Date Received: 12/19/24 07:34

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.6		mg/Kg		12/19/24 13:07	12/21/24 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*12/19/24 13:07*	*12/21/24 15:23*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/19/24 13:07	12/21/24 15:23	1
Ethylbenzene	ND		0.046		mg/Kg		12/19/24 13:07	12/21/24 15:23	1
Toluene	ND		0.046		mg/Kg		12/19/24 13:07	12/21/24 15:23	1
Xylenes, Total	ND		0.092		mg/Kg		12/19/24 13:07	12/21/24 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*48 - 145*	*12/19/24 13:07*	*12/21/24 15:23*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.0		mg/Kg		12/27/24 16:03	12/31/24 17:20	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		12/27/24 16:03	12/31/24 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*12/27/24 16:03*	*12/31/24 17:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/20/24 10:20	12/20/24 18:31	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17317-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18134/1-A
Matrix: Solid
Analysis Batch: 18275

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18134

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/19/24 13:07	12/21/24 12:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*12/19/24 13:07*	*12/21/24 12:29*	*1*

Lab Sample ID: LCS 885-18134/4-A
Matrix: Solid
Analysis Batch: 18275

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18134

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	24.8		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*201*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18134/1-A
Matrix: Solid
Analysis Batch: 18276

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18134

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/19/24 13:07	12/21/24 12:29	1
Ethylbenzene	ND		0.050		mg/Kg		12/19/24 13:07	12/21/24 12:29	1
Toluene	ND		0.050		mg/Kg		12/19/24 13:07	12/21/24 12:29	1
Xylenes, Total	ND		0.10		mg/Kg		12/19/24 13:07	12/21/24 12:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*12/19/24 13:07*	*12/21/24 12:29*	*1*

Lab Sample ID: LCS 885-18134/5-A
Matrix: Solid
Analysis Batch: 18276

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18134

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.952		mg/Kg		95	70 - 130		
Ethylbenzene			1.00	0.966		mg/Kg		97	70 - 130		
m,p-Xylene			2.00	1.88		mg/Kg		94	70 - 130		
o-Xylene			1.00	0.927		mg/Kg		93	70 - 130		
Toluene			1.00	0.953		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17317-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18528/1-A
Matrix: Solid
Analysis Batch: 18540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18528

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		12/27/24 16:03	12/31/24 16:28	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/27/24 16:03	12/31/24 16:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*12/27/24 16:03*	*12/31/24 16:28*	*1*

Lab Sample ID: LCS 885-18528/2-A
Matrix: Solid
Analysis Batch: 18540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18528

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	52.3		mg/Kg		105	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-18209/1-A
Matrix: Solid
Analysis Batch: 18217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18209

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		12/20/24 10:20	12/20/24 13:45	1

Lab Sample ID: LCS 885-18209/2-A
Matrix: Solid
Analysis Batch: 18217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18209

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.3		mg/Kg		98	90 - 110		

Lab Sample ID: MRL 885-18503/3
Matrix: Solid
Analysis Batch: 18503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.516		mg/L		103	50 - 150		

QC Association Summary

Client: Vertex Job ID: 885-17317-1
Project/Site: Endurance Lariat Water Line

GC VOA

Prep Batch: 18134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17317-1	WS24-21 4-9	Total/NA	Solid	5030C	
885-17317-2	WS24-18 4-5	Total/NA	Solid	5030C	
MB 885-18134/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-18134/4-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-18134/5-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 18275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17317-1	WS24-21 4-9	Total/NA	Solid	8015M/D	18134
885-17317-2	WS24-18 4-5	Total/NA	Solid	8015M/D	18134
MB 885-18134/1-A	Method Blank	Total/NA	Solid	8015M/D	18134
LCS 885-18134/4-A	Lab Control Sample	Total/NA	Solid	8015M/D	18134

Analysis Batch: 18276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17317-1	WS24-21 4-9	Total/NA	Solid	8021B	18134
885-17317-2	WS24-18 4-5	Total/NA	Solid	8021B	18134
MB 885-18134/1-A	Method Blank	Total/NA	Solid	8021B	18134
LCS 885-18134/5-A	Lab Control Sample	Total/NA	Solid	8021B	18134

GC Semi VOA

Prep Batch: 18528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17317-1	WS24-21 4-9	Total/NA	Solid	SHAKE	
885-17317-2	WS24-18 4-5	Total/NA	Solid	SHAKE	
MB 885-18528/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18528/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 18540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17317-2	WS24-18 4-5	Total/NA	Solid	8015M/D	18528
MB 885-18528/1-A	Method Blank	Total/NA	Solid	8015M/D	18528
LCS 885-18528/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	18528

Analysis Batch: 18695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17317-1	WS24-21 4-9	Total/NA	Solid	8015M/D	18528

HPLC/IC

Prep Batch: 18209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17317-1	WS24-21 4-9	Total/NA	Solid	300_Prep	
885-17317-2	WS24-18 4-5	Total/NA	Solid	300_Prep	
MB 885-18209/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18209/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 18217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17317-2	WS24-18 4-5	Total/NA	Solid	300.0	18209
MB 885-18209/1-A	Method Blank	Total/NA	Solid	300.0	18209

QC Association Summary

Client: Vertex
Job ID: 885-17317-1
Project/Site: Endurance Lariat Water Line

HPLC/IC (Continued)

Analysis Batch: 18217 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-18209/2-A	Lab Control Sample	Total/NA	Solid	300.0	18209

Analysis Batch: 18503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17317-1	WS24-21 4-9	Total/NA	Solid	300.0	18209
MRL 885-18503/3	Lab Control Sample	Total/NA	Solid	300.0	

Lab Chronicle

Client: Vertex
Job ID: 885-17317-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-21 4-9
Lab Sample ID: 885-17317-1
Date Collected: 12/17/24 09:00
Matrix: Solid
Date Received: 12/19/24 07:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18134	JR	EET ALB	12/19/24 13:07
Total/NA	Analysis	8015M/D		1	18275	AT	EET ALB	12/21/24 15:01
Total/NA	Prep	5030C			18134	JR	EET ALB	12/19/24 13:07
Total/NA	Analysis	8021B		1	18276	AT	EET ALB	12/21/24 15:01
Total/NA	Prep	SHAKE			18528	DH	EET ALB	12/27/24 16:03
Total/NA	Analysis	8015M/D		5	18695	MI	EET ALB	01/02/25 10:43
Total/NA	Prep	300_Prep			18209	EH	EET ALB	12/20/24 10:20
Total/NA	Analysis	300.0		100	18503	EH	EET ALB	12/27/24 13:52

Client Sample ID: WS24-18 4-5
Lab Sample ID: 885-17317-2
Date Collected: 12/17/24 09:30
Matrix: Solid
Date Received: 12/19/24 07:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18134	JR	EET ALB	12/19/24 13:07
Total/NA	Analysis	8015M/D		1	18275	AT	EET ALB	12/21/24 15:23
Total/NA	Prep	5030C			18134	JR	EET ALB	12/19/24 13:07
Total/NA	Analysis	8021B		1	18276	AT	EET ALB	12/21/24 15:23
Total/NA	Prep	SHAKE			18528	DH	EET ALB	12/27/24 16:03
Total/NA	Analysis	8015M/D		1	18540	EM	EET ALB	12/31/24 17:20
Total/NA	Prep	300_Prep			18209	EH	EET ALB	12/20/24 10:20
Total/NA	Analysis	300.0		20	18217	RC	EET ALB	12/20/24 18:31

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17317-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (bill to Solaris)

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: Endurance Lariat water Line

Project #: 24E-03247

Project Manager: Chance Dixon
Cdixon@vertex.ca

Sampler: Katrina Taylor

On Ice: ☒ Yes ☐ No

# of Coolers: 1 wojo

Cooler Temp(including CF): 1.8+0=1.8 (°C)

HALL ENVIRONM ANALYSIS LABOR
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 8710
Tel. 505-345-3975 Fax 505-345-4107
885-17317 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D GRO / DRO / MRO	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/17	9:00	Soil	WS24-21 4-9	4oz	Ice		✓	✓					✓			
↓	9:30	↓	WS24-18 4-5	↓	↓		✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/18	8:00	Katrina Taylor			12/18/24	BDD
12/18/24	1900			courier	12/19/24	7:34

Remarks: Bill to Solaris
ATTN: Rob Kirk (Rob.Kirk@arlswater.com)
CC: Cdixon@vertex resource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17317-1

Login Number: 17317 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/9/2025 10:03:52 AM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-17492-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/9/2025 10:03:52 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-17492-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
S1-	Surrogate recovery exceeds control limits, low biased.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex Job ID: 885-17492-1
Project: Endurance Lariat Water Line

Job ID: 885-17492-1 Eurofins Albuquerque

Job Narrative
885-17492-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/21/2024 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The following sample was diluted due to the nature of the sample matrix: BS24-37 7' (885-17492-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-24 0-4'
Lab Sample ID: 885-17492-1
Date Collected: 12/19/24 09:00
Matrix: Solid
Date Received: 12/21/24 11:20

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		12/24/24 08:45	12/26/24 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*12/24/24 08:45*	*12/26/24 14:17*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/24/24 08:45	12/26/24 14:17	1
Ethylbenzene	ND		0.049		mg/Kg		12/24/24 08:45	12/26/24 14:17	1
Toluene	ND		0.049		mg/Kg		12/24/24 08:45	12/26/24 14:17	1
Xylenes, Total	ND		0.099		mg/Kg		12/24/24 08:45	12/26/24 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*12/24/24 08:45*	*12/26/24 14:17*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**12**		8.4		mg/Kg		12/27/24 15:44	01/04/25 06:37	1
Motor Oil Range Organics [C28-C40]	ND		42		mg/Kg		12/27/24 15:44	01/04/25 06:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*12/27/24 15:44*	*01/04/25 06:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/30/24 11:41	12/30/24 13:18	20

Client Sample Results

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-25 0-4'
Lab Sample ID: 885-17492-2
Date Collected: 12/19/24 09:30
Matrix: Solid
Date Received: 12/21/24 11:20

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		12/24/24 08:45	12/26/24 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*35 - 166*	*12/24/24 08:45*	*12/26/24 15:23*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/24/24 08:45	12/26/24 15:23	1
Ethylbenzene	ND		0.049		mg/Kg		12/24/24 08:45	12/26/24 15:23	1
Toluene	ND		0.049		mg/Kg		12/24/24 08:45	12/26/24 15:23	1
Xylenes, Total	ND		0.098		mg/Kg		12/24/24 08:45	12/26/24 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*12/24/24 08:45*	*12/26/24 15:23*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		12/27/24 15:44	01/04/25 06:47	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		12/27/24 15:44	01/04/25 06:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*	*12/27/24 15:44*	*01/04/25 06:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/30/24 11:41	12/30/24 14:39	20

Client Sample Results

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-26 0-4'
Lab Sample ID: 885-17492-3
Date Collected: 12/19/24 10:00
Matrix: Solid
Date Received: 12/21/24 11:20

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		12/24/24 08:45	12/26/24 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*12/24/24 08:45*	*12/26/24 16:29*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/24/24 08:45	12/26/24 16:29	1
Ethylbenzene	ND		0.047		mg/Kg		12/24/24 08:45	12/26/24 16:29	1
Toluene	ND		0.047		mg/Kg		12/24/24 08:45	12/26/24 16:29	1
Xylenes, Total	ND		0.094		mg/Kg		12/24/24 08:45	12/26/24 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*12/24/24 08:45*	*12/26/24 16:29*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8		mg/Kg		12/27/24 15:44	01/04/25 06:58	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		12/27/24 15:44	01/04/25 06:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*108*		*62 - 134*	*12/27/24 15:44*	*01/04/25 06:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/30/24 11:41	12/30/24 14:49	20

Client Sample Results

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-28 4-7'
Lab Sample ID: 885-17492-4
Date Collected: 12/19/24 10:30
Matrix: Solid
Date Received: 12/21/24 11:20

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**36**		4.8		mg/Kg		12/24/24 08:45	12/26/24 16:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*214*	*S1+*	*35 - 166*	*12/24/24 08:45*	*12/26/24 16:51*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/24/24 08:45	12/26/24 16:51	1
Ethylbenzene	**0.17**		0.048		mg/Kg		12/24/24 08:45	12/26/24 16:51	1
Toluene	ND		0.048		mg/Kg		12/24/24 08:45	12/26/24 16:51	1
Xylenes, Total	**0.96**		0.096		mg/Kg		12/24/24 08:45	12/26/24 16:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*48 - 145*	*12/24/24 08:45*	*12/26/24 16:51*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1100**		20		mg/Kg		12/27/24 15:44	01/07/25 18:02	2
Motor Oil Range Organics [C28-C40]	**400**		99		mg/Kg		12/27/24 15:44	01/07/25 18:02	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*120*		*62 - 134*	*12/27/24 15:44*	*01/07/25 18:02*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**69**		60		mg/Kg		12/30/24 11:41	12/30/24 14:59	20

Client Sample Results

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-29 4-7'
Lab Sample ID: 885-17492-5
Date Collected: 12/19/24 11:00
Matrix: Solid
Date Received: 12/21/24 11:20

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		12/24/24 08:45	12/26/24 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*35 - 166*	*12/24/24 08:45*	*12/26/24 17:12*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/24/24 08:45	12/26/24 17:12	1
Ethylbenzene	ND		0.048		mg/Kg		12/24/24 08:45	12/26/24 17:12	1
Toluene	ND		0.048		mg/Kg		12/24/24 08:45	12/26/24 17:12	1
Xylenes, Total	ND		0.097		mg/Kg		12/24/24 08:45	12/26/24 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*12/24/24 08:45*	*12/26/24 17:12*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		12/27/24 15:44	01/07/25 18:13	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		12/27/24 15:44	01/07/25 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*108*		*62 - 134*	*12/27/24 15:44*	*01/07/25 18:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/30/24 11:41	12/30/24 15:09	20

Client Sample Results

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-31 4-6.5'
Lab Sample ID: 885-17492-6
Date Collected: 12/19/24 11:30
Matrix: Solid
Date Received: 12/21/24 11:20

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**70**		4.9		mg/Kg		12/24/24 08:45	12/26/24 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*252*	*S1+*	*35 - 166*	*12/24/24 08:45*	*12/26/24 17:34*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/24/24 08:45	12/26/24 17:34	1
Ethylbenzene	**0.13**		0.049		mg/Kg		12/24/24 08:45	12/26/24 17:34	1
Toluene	ND		0.049		mg/Kg		12/24/24 08:45	12/26/24 17:34	1
Xylenes, Total	**0.97**		0.099		mg/Kg		12/24/24 08:45	12/26/24 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*128*		*48 - 145*	*12/24/24 08:45*	*12/26/24 17:34*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1400**		20		mg/Kg		12/27/24 15:44	01/06/25 13:35	2
Motor Oil Range Organics [C28-C40]	**560**		99		mg/Kg		12/27/24 15:44	01/06/25 13:35	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*117*		*62 - 134*	*12/27/24 15:44*	*01/06/25 13:35*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**		150		mg/Kg		12/30/24 11:41	01/02/25 11:17	50

Client Sample Results

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-35 7'
Lab Sample ID: 885-17492-7
Date Collected: 12/19/24 12:00
Matrix: Solid
Date Received: 12/21/24 11:20

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		12/24/24 08:45	12/26/24 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*35 - 166*	*12/24/24 08:45*	*12/26/24 17:56*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/24/24 08:45	12/26/24 17:56	1
Ethylbenzene	ND		0.047		mg/Kg		12/24/24 08:45	12/26/24 17:56	1
Toluene	ND		0.047		mg/Kg		12/24/24 08:45	12/26/24 17:56	1
Xylenes, Total	ND		0.094		mg/Kg		12/24/24 08:45	12/26/24 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*12/24/24 08:45*	*12/26/24 17:56*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8		mg/Kg		12/27/24 15:44	01/07/25 18:23	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		12/27/24 15:44	01/07/25 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*109*		*62 - 134*	*12/27/24 15:44*	*01/07/25 18:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**380**		60		mg/Kg		12/30/24 11:41	12/30/24 15:28	20

Client Sample Results

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-36 7'
Lab Sample ID: 885-17492-8
Date Collected: 12/19/24 12:30
Matrix: Solid
Date Received: 12/21/24 11:20

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.6		mg/Kg		12/24/24 08:45	12/26/24 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*35 - 166*	*12/24/24 08:45*	*12/26/24 18:18*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/24/24 08:45	12/26/24 18:18	1
Ethylbenzene	ND		0.046		mg/Kg		12/24/24 08:45	12/26/24 18:18	1
Toluene	ND		0.046		mg/Kg		12/24/24 08:45	12/26/24 18:18	1
Xylenes, Total	ND		0.093		mg/Kg		12/24/24 08:45	12/26/24 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*12/24/24 08:45*	*12/26/24 18:18*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**570**		9.5		mg/Kg		12/27/24 15:44	01/04/25 08:00	1
Motor Oil Range Organics [C28-C40]	**250**		47		mg/Kg		12/27/24 15:44	01/04/25 08:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*12/27/24 15:44*	*01/04/25 08:00*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		60		mg/Kg		12/30/24 11:41	12/30/24 15:38	20

Client Sample Results

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-37 7'
Lab Sample ID: 885-17492-9
Date Collected: 12/19/24 13:00
Matrix: Solid
Date Received: 12/21/24 11:20

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	65		4.9		mg/Kg		12/24/24 08:45	12/26/24 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*268*	*S1+*	*35 - 166*	*12/24/24 08:45*	*12/26/24 18:40*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/24/24 08:45	12/26/24 18:40	1
Ethylbenzene	0.56		0.049		mg/Kg		12/24/24 08:45	12/26/24 18:40	1
Toluene	0.18		0.049		mg/Kg		12/24/24 08:45	12/26/24 18:40	1
Xylenes, Total	3.0		0.097		mg/Kg		12/24/24 08:45	12/26/24 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*142*		*48 - 145*	*12/24/24 08:45*	*12/26/24 18:40*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2200		180		mg/Kg		12/27/24 15:44	01/06/25 16:25	20
Motor Oil Range Organics [C28-C40]	1000		900		mg/Kg		12/27/24 15:44	01/06/25 16:25	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*0*	*S1- D*	*62 - 134*	*12/27/24 15:44*	*01/06/25 16:25*	*20*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80		60		mg/Kg		12/30/24 11:41	12/30/24 15:48	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17492-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18396/1-A
Matrix: Solid
Analysis Batch: 18463

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18396

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/24/24 08:45	12/26/24 13:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*12/24/24 08:45*	*12/26/24 13:56*	*1*

Lab Sample ID: LCS 885-18396/2-A
Matrix: Solid
Analysis Batch: 18463

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18396

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.5		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*185*		*35 - 166*

Lab Sample ID: 885-17492-1 MS
Matrix: Solid
Analysis Batch: 18463

Client Sample ID: WS24-24 0-4'
Prep Type: Total/NA
Prep Batch: 18396

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		24.6	23.6		mg/Kg		96	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*200*		*35 - 166*

Lab Sample ID: 885-17492-1 MSD
Matrix: Solid
Analysis Batch: 18463

Client Sample ID: WS24-24 0-4'
Prep Type: Total/NA
Prep Batch: 18396

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		24.8	20.5		mg/Kg		83	70 - 130	14	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*184*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18396/1-A
Matrix: Solid
Analysis Batch: 18464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18396

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/24/24 08:45	12/26/24 13:56	1
Ethylbenzene	ND		0.050		mg/Kg		12/24/24 08:45	12/26/24 13:56	1
Toluene	ND		0.050		mg/Kg		12/24/24 08:45	12/26/24 13:56	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17492-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-18396/1-A
Matrix: Solid
Analysis Batch: 18464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18396

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		12/24/24 08:45	12/26/24 13:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*12/24/24 08:45*	*12/26/24 13:56*	*1*

Lab Sample ID: LCS 885-18396/3-A
Matrix: Solid
Analysis Batch: 18464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18396

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.895		mg/Kg		90	70 - 130		
Ethylbenzene			1.00	0.892		mg/Kg		89	70 - 130		
m,p-Xylene			2.00	1.72		mg/Kg		86	70 - 130		
o-Xylene			1.00	0.864		mg/Kg		86	70 - 130		
Toluene			1.00	0.901		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*

Lab Sample ID: 885-17492-2 MS
Matrix: Solid
Analysis Batch: 18464

Client Sample ID: WS24-25 0-4'
Prep Type: Total/NA
Prep Batch: 18396

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.993	0.934		mg/Kg		94	70 - 130		
Ethylbenzene	ND		0.993	0.947		mg/Kg		95	70 - 130		
m,p-Xylene	ND		1.99	1.87		mg/Kg		94	70 - 130		
o-Xylene	ND		0.993	0.945		mg/Kg		95	70 - 130		
Toluene	ND		0.993	0.952		mg/Kg		96	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*

Lab Sample ID: 885-17492-2 MSD
Matrix: Solid
Analysis Batch: 18464

Client Sample ID: WS24-25 0-4'
Prep Type: Total/NA
Prep Batch: 18396

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.988	0.960		mg/Kg		97	70 - 130	3	20
Ethylbenzene	ND		0.988	0.954		mg/Kg		97	70 - 130	1	20
m,p-Xylene	ND		1.98	1.90		mg/Kg		96	70 - 130	2	20
o-Xylene	ND		0.988	0.948		mg/Kg		96	70 - 130	0	20
Toluene	ND		0.988	0.959		mg/Kg		97	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17492-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18833/1-A
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18833

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/06/25 09:36	01/07/25 10:05	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/06/25 09:36	01/07/25 10:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/06/25 09:36*	*01/07/25 10:05*	*1*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MRL 885-18567/3
Matrix: Solid
Analysis Batch: 18567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.498	J	mg/L		100	50 - 150		

Lab Sample ID: MB 885-18574/1-A
Matrix: Solid
Analysis Batch: 18567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18574

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		12/30/24 11:41	12/30/24 12:19	1

Lab Sample ID: LCS 885-18574/2-A
Matrix: Solid
Analysis Batch: 18567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18574

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	27.9		mg/Kg		93	90 - 110		

QC Association Summary

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

GC VOA

Prep Batch: 18396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-1	WS24-24 0-4'	Total/NA	Solid	5030C	
885-17492-2	WS24-25 0-4'	Total/NA	Solid	5030C	
885-17492-3	WS24-26 0-4'	Total/NA	Solid	5030C	
885-17492-4	WS24-28 4-7'	Total/NA	Solid	5030C	
885-17492-5	WS24-29 4-7'	Total/NA	Solid	5030C	
885-17492-6	WS24-31 4-6.5'	Total/NA	Solid	5030C	
885-17492-7	BS24-35 7'	Total/NA	Solid	5030C	
885-17492-8	BS24-36 7'	Total/NA	Solid	5030C	
885-17492-9	BS24-37 7'	Total/NA	Solid	5030C	
MB 885-18396/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-18396/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-18396/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-17492-1 MS	WS24-24 0-4'	Total/NA	Solid	5030C	
885-17492-1 MSD	WS24-24 0-4'	Total/NA	Solid	5030C	
885-17492-2 MS	WS24-25 0-4'	Total/NA	Solid	5030C	
885-17492-2 MSD	WS24-25 0-4'	Total/NA	Solid	5030C	

Analysis Batch: 18463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-1	WS24-24 0-4'	Total/NA	Solid	8015M/D	18396
885-17492-2	WS24-25 0-4'	Total/NA	Solid	8015M/D	18396
885-17492-3	WS24-26 0-4'	Total/NA	Solid	8015M/D	18396
885-17492-4	WS24-28 4-7'	Total/NA	Solid	8015M/D	18396
885-17492-5	WS24-29 4-7'	Total/NA	Solid	8015M/D	18396
885-17492-6	WS24-31 4-6.5'	Total/NA	Solid	8015M/D	18396
885-17492-7	BS24-35 7'	Total/NA	Solid	8015M/D	18396
885-17492-8	BS24-36 7'	Total/NA	Solid	8015M/D	18396
885-17492-9	BS24-37 7'	Total/NA	Solid	8015M/D	18396
MB 885-18396/1-A	Method Blank	Total/NA	Solid	8015M/D	18396
LCS 885-18396/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	18396
885-17492-1 MS	WS24-24 0-4'	Total/NA	Solid	8015M/D	18396
885-17492-1 MSD	WS24-24 0-4'	Total/NA	Solid	8015M/D	18396

Analysis Batch: 18464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-1	WS24-24 0-4'	Total/NA	Solid	8021B	18396
885-17492-2	WS24-25 0-4'	Total/NA	Solid	8021B	18396
885-17492-3	WS24-26 0-4'	Total/NA	Solid	8021B	18396
885-17492-4	WS24-28 4-7'	Total/NA	Solid	8021B	18396
885-17492-5	WS24-29 4-7'	Total/NA	Solid	8021B	18396
885-17492-6	WS24-31 4-6.5'	Total/NA	Solid	8021B	18396
885-17492-7	BS24-35 7'	Total/NA	Solid	8021B	18396
885-17492-8	BS24-36 7'	Total/NA	Solid	8021B	18396
885-17492-9	BS24-37 7'	Total/NA	Solid	8021B	18396
MB 885-18396/1-A	Method Blank	Total/NA	Solid	8021B	18396
LCS 885-18396/3-A	Lab Control Sample	Total/NA	Solid	8021B	18396
885-17492-2 MS	WS24-25 0-4'	Total/NA	Solid	8021B	18396
885-17492-2 MSD	WS24-25 0-4'	Total/NA	Solid	8021B	18396

QC Association Summary

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

GC Semi VOA

Prep Batch: 18523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-1	WS24-24 0-4'	Total/NA	Solid	SHAKE	
885-17492-2	WS24-25 0-4'	Total/NA	Solid	SHAKE	
885-17492-3	WS24-26 0-4'	Total/NA	Solid	SHAKE	
885-17492-4	WS24-28 4-7'	Total/NA	Solid	SHAKE	
885-17492-5	WS24-29 4-7'	Total/NA	Solid	SHAKE	
885-17492-6	WS24-31 4-6.5'	Total/NA	Solid	SHAKE	
885-17492-7	BS24-35 7'	Total/NA	Solid	SHAKE	
885-17492-8	BS24-36 7'	Total/NA	Solid	SHAKE	
885-17492-9	BS24-37 7'	Total/NA	Solid	SHAKE	

Analysis Batch: 18776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-1	WS24-24 0-4'	Total/NA	Solid	8015M/D	18523
885-17492-2	WS24-25 0-4'	Total/NA	Solid	8015M/D	18523
885-17492-3	WS24-26 0-4'	Total/NA	Solid	8015M/D	18523
885-17492-8	BS24-36 7'	Total/NA	Solid	8015M/D	18523

Analysis Batch: 18830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-6	WS24-31 4-6.5'	Total/NA	Solid	8015M/D	18523
885-17492-9	BS24-37 7'	Total/NA	Solid	8015M/D	18523

Prep Batch: 18833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-18833/1-A	Method Blank	Total/NA	Solid	SHAKE	

Analysis Batch: 18895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-4	WS24-28 4-7'	Total/NA	Solid	8015M/D	18523
885-17492-5	WS24-29 4-7'	Total/NA	Solid	8015M/D	18523
885-17492-7	BS24-35 7'	Total/NA	Solid	8015M/D	18523
MB 885-18833/1-A	Method Blank	Total/NA	Solid	8015M/D	18833

HPLC/IC

Analysis Batch: 18567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-1	WS24-24 0-4'	Total/NA	Solid	300.0	18574
885-17492-2	WS24-25 0-4'	Total/NA	Solid	300.0	18574
885-17492-3	WS24-26 0-4'	Total/NA	Solid	300.0	18574
885-17492-4	WS24-28 4-7'	Total/NA	Solid	300.0	18574
885-17492-5	WS24-29 4-7'	Total/NA	Solid	300.0	18574
885-17492-7	BS24-35 7'	Total/NA	Solid	300.0	18574
885-17492-8	BS24-36 7'	Total/NA	Solid	300.0	18574
885-17492-9	BS24-37 7'	Total/NA	Solid	300.0	18574
MB 885-18574/1-A	Method Blank	Total/NA	Solid	300.0	18574
LCS 885-18574/2-A	Lab Control Sample	Total/NA	Solid	300.0	18574
MRL 885-18567/3	Lab Control Sample	Total/NA	Solid	300.0	

QC Association Summary

Client: Vertex Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

HPLC/IC

Prep Batch: 18574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-1	WS24-24 0-4'	Total/NA	Solid	300_Prep	
885-17492-2	WS24-25 0-4'	Total/NA	Solid	300_Prep	
885-17492-3	WS24-26 0-4'	Total/NA	Solid	300_Prep	
885-17492-4	WS24-28 4-7'	Total/NA	Solid	300_Prep	
885-17492-5	WS24-29 4-7'	Total/NA	Solid	300_Prep	
885-17492-6	WS24-31 4-6.5'	Total/NA	Solid	300_Prep	
885-17492-7	BS24-35 7'	Total/NA	Solid	300_Prep	
885-17492-8	BS24-36 7'	Total/NA	Solid	300_Prep	
885-17492-9	BS24-37 7'	Total/NA	Solid	300_Prep	
MB 885-18574/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18574/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 18689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17492-6	WS24-31 4-6.5'	Total/NA	Solid	300.0	18574

Lab Chronicle

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-24 0-4'
Lab Sample ID: 885-17492-1
Date Collected: 12/19/24 09:00
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8015M/D		1	18463	AT	EET ALB	12/26/24 14:17
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8021B		1	18464	AT	EET ALB	12/26/24 14:17
Total/NA	Prep	SHAKE			18523	DH	EET ALB	12/27/24 15:44
Total/NA	Analysis	8015M/D		1	18776	MI	EET ALB	01/04/25 06:37
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		20	18567	EH	EET ALB	12/30/24 13:18

Client Sample ID: WS24-25 0-4'
Lab Sample ID: 885-17492-2
Date Collected: 12/19/24 09:30
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8015M/D		1	18463	AT	EET ALB	12/26/24 15:23
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8021B		1	18464	AT	EET ALB	12/26/24 15:23
Total/NA	Prep	SHAKE			18523	DH	EET ALB	12/27/24 15:44
Total/NA	Analysis	8015M/D		1	18776	MI	EET ALB	01/04/25 06:47
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		20	18567	EH	EET ALB	12/30/24 14:39

Client Sample ID: WS24-26 0-4'
Lab Sample ID: 885-17492-3
Date Collected: 12/19/24 10:00
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8015M/D		1	18463	AT	EET ALB	12/26/24 16:29
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8021B		1	18464	AT	EET ALB	12/26/24 16:29
Total/NA	Prep	SHAKE			18523	DH	EET ALB	12/27/24 15:44
Total/NA	Analysis	8015M/D		1	18776	MI	EET ALB	01/04/25 06:58
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		20	18567	EH	EET ALB	12/30/24 14:49

Client Sample ID: WS24-28 4-7'
Lab Sample ID: 885-17492-4
Date Collected: 12/19/24 10:30
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8015M/D		1	18463	AT	EET ALB	12/26/24 16:51

Lab Chronicle

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-28 4-7'
Lab Sample ID: 885-17492-4
Date Collected: 12/19/24 10:30
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8021B		1	18464	AT	EET ALB	12/26/24 16:51
Total/NA	Prep	SHAKE			18523	DH	EET ALB	12/27/24 15:44
Total/NA	Analysis	8015M/D		2	18895	MI	EET ALB	01/07/25 18:02
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		20	18567	EH	EET ALB	12/30/24 14:59

Client Sample ID: WS24-29 4-7'
Lab Sample ID: 885-17492-5
Date Collected: 12/19/24 11:00
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8015M/D		1	18463	AT	EET ALB	12/26/24 17:12
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8021B		1	18464	AT	EET ALB	12/26/24 17:12
Total/NA	Prep	SHAKE			18523	DH	EET ALB	12/27/24 15:44
Total/NA	Analysis	8015M/D		1	18895	MI	EET ALB	01/07/25 18:13
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		20	18567	EH	EET ALB	12/30/24 15:09

Client Sample ID: WS24-31 4-6.5'
Lab Sample ID: 885-17492-6
Date Collected: 12/19/24 11:30
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8015M/D		1	18463	AT	EET ALB	12/26/24 17:34
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8021B		1	18464	AT	EET ALB	12/26/24 17:34
Total/NA	Prep	SHAKE			18523	DH	EET ALB	12/27/24 15:44
Total/NA	Analysis	8015M/D		2	18830	MI	EET ALB	01/06/25 13:35
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		50	18689	EH	EET ALB	01/02/25 11:17

Client Sample ID: BS24-35 7'
Lab Sample ID: 885-17492-7
Date Collected: 12/19/24 12:00
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8015M/D		1	18463	AT	EET ALB	12/26/24 17:56
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8021B		1	18464	AT	EET ALB	12/26/24 17:56

Lab Chronicle

Client: Vertex
Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-35 7'
Lab Sample ID: 885-17492-7
Date Collected: 12/19/24 12:00
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			18523	DH	EET ALB	12/27/24 15:44
Total/NA	Analysis	8015M/D		1	18895	MI	EET ALB	01/07/25 18:23
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		20	18567	EH	EET ALB	12/30/24 15:28

Client Sample ID: BS24-36 7'
Lab Sample ID: 885-17492-8
Date Collected: 12/19/24 12:30
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8015M/D		1	18463	AT	EET ALB	12/26/24 18:18
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8021B		1	18464	AT	EET ALB	12/26/24 18:18
Total/NA	Prep	SHAKE			18523	DH	EET ALB	12/27/24 15:44
Total/NA	Analysis	8015M/D		1	18776	MI	EET ALB	01/04/25 08:00
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		20	18567	EH	EET ALB	12/30/24 15:38

Client Sample ID: BS24-37 7'
Lab Sample ID: 885-17492-9
Date Collected: 12/19/24 13:00
Matrix: Solid
Date Received: 12/21/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8015M/D		1	18463	AT	EET ALB	12/26/24 18:40
Total/NA	Prep	5030C			18396	JP	EET ALB	12/24/24 08:45
Total/NA	Analysis	8021B		1	18464	AT	EET ALB	12/26/24 18:40
Total/NA	Prep	SHAKE			18523	DH	EET ALB	12/27/24 15:44
Total/NA	Analysis	8015M/D		20	18830	MI	EET ALB	01/06/25 16:25
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		20	18567	EH	EET ALB	12/30/24 15:48

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17492-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (bill to Solaris)

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: Endurance Load water line

Project #: 246-03247

Project Manager: Chance Dixon
Cdixon@vertexresource.com

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 1 Mojo

Cooler Temp (including CF): 3.9+0.1=4.0°C (°C)

HALL ENVIRONMENTAL ANALYSIS LABORAT
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
885-17492 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
12/19	9:00	Soil	WS24-24 0-4'	4 oz	Ice	-1
	9:50		WS24-25 0-4'			-2
	10:00		WS24-26 0-4'			-3
	10:30		WS24-28 4-7'			-4
	11:00		WS24-29 4-7'			-5
	11:30		WS24-31 4-6.5'			-6
	12:00		BS24-35 7'			-7
	12:30		BS24-36 7'			-8
	13:00		BS24-37 7'			-9

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)

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/19 12/20	6 pm	Katrina Taylor		courier	12/21/24	11:20
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: bill to Solaris
Rob Kirk (rob.kirk@ariswater.com)
cc. Cdixon@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17492-1

Login Number: 17492 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Proctor, Nancy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/6/2025 4:03:30 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-17658-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/18/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-17658-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17658-1
Project/Site: Endurance Lariat Water Line

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex Job ID: 885-17658-1
Project: Endurance Lariat Water Line

Job ID: 885-17658-1 Eurofins Albuquerque

Job Narrative
885-17658-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/28/2024 8:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.7°C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-17658-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-38 4'
Lab Sample ID: 885-17658-1
Date Collected: 12/20/24 09:00
Matrix: Solid
Date Received: 12/28/24 08:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**8.8**		4.8		mg/Kg		12/30/24 09:49	12/31/24 23:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*141*		*35 - 166*	*12/30/24 09:49*	*12/31/24 23:11*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/30/24 09:49	12/31/24 23:11	1
Ethylbenzene	**0.076**		0.048		mg/Kg		12/30/24 09:49	12/31/24 23:11	1
Toluene	ND		0.048		mg/Kg		12/30/24 09:49	12/31/24 23:11	1
Xylenes, Total	**0.56**		0.097		mg/Kg		12/30/24 09:49	12/31/24 23:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*48 - 145*	*12/30/24 09:49*	*12/31/24 23:11*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**850**		9.7		mg/Kg		12/31/24 11:06	01/02/25 19:46	1
Motor Oil Range Organics [C28-C40]	**400**		48		mg/Kg		12/31/24 11:06	01/02/25 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*116*		*62 - 134*	*12/31/24 11:06*	*01/02/25 19:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**460**		61		mg/Kg		12/30/24 11:41	12/30/24 17:26	20

Client Sample Results

Client: Vertex
Job ID: 885-17658-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-40 6.5'
Lab Sample ID: 885-17658-2
Date Collected: 12/20/24 09:30
Matrix: Solid
Date Received: 12/28/24 08:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		12/30/24 09:49	12/31/24 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*12/30/24 09:49*	*12/31/24 23:35*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/30/24 09:49	12/31/24 23:35	1
Ethylbenzene	ND		0.047		mg/Kg		12/30/24 09:49	12/31/24 23:35	1
Toluene	ND		0.047		mg/Kg		12/30/24 09:49	12/31/24 23:35	1
Xylenes, Total	ND		0.094		mg/Kg		12/30/24 09:49	12/31/24 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*	*12/30/24 09:49*	*12/31/24 23:35*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**540**		9.3		mg/Kg		12/31/24 11:06	01/02/25 19:57	1
Motor Oil Range Organics [C28-C40]	**290**		46		mg/Kg		12/31/24 11:06	01/02/25 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*12/31/24 11:06*	*01/02/25 19:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3000**		150		mg/Kg		12/30/24 11:41	01/02/25 11:27	50

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17658-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18545/1-A
Matrix: Solid
Analysis Batch: 18665

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18545

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/30/24 09:49	12/31/24 18:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*35 - 166*	*12/30/24 09:49*	*12/31/24 18:28*	*1*

Lab Sample ID: LCS 885-18545/2-A
Matrix: Solid
Analysis Batch: 18665

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18545

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	26.9		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*216*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18545/1-A
Matrix: Solid
Analysis Batch: 18666

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18545

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/30/24 09:49	12/31/24 18:28	1
Ethylbenzene	ND		0.050		mg/Kg		12/30/24 09:49	12/31/24 18:28	1
Toluene	ND		0.050		mg/Kg		12/30/24 09:49	12/31/24 18:28	1
Xylenes, Total	ND		0.10		mg/Kg		12/30/24 09:49	12/31/24 18:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*	*12/30/24 09:49*	*12/31/24 18:28*	*1*

Lab Sample ID: LCS 885-18545/3-A
Matrix: Solid
Analysis Batch: 18666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18545

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.12		mg/Kg		112	70 - 130		
Ethylbenzene			1.00	1.17		mg/Kg		117	70 - 130		
m,p-Xylene			2.00	2.31		mg/Kg		115	70 - 130		
o-Xylene			1.00	1.14		mg/Kg		114	70 - 130		
Toluene			1.00	1.15		mg/Kg		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17658-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18629/1-A
Matrix: Solid
Analysis Batch: 18695

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18629

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		12/31/24 11:06	01/02/25 17:38	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/31/24 11:06	01/02/25 17:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*131*		*62 - 134*	*12/31/24 11:06*	*01/02/25 17:38*	*1*

Lab Sample ID: LCS 885-18629/2-A
Matrix: Solid
Analysis Batch: 18695

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18629

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	65.1		mg/Kg		130	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MRL 885-18567/3
Matrix: Solid
Analysis Batch: 18567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.498	J	mg/L		100	50 - 150		

Lab Sample ID: MB 885-18574/1-A
Matrix: Solid
Analysis Batch: 18567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18574

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		12/30/24 11:41	12/30/24 12:19	1

Lab Sample ID: LCS 885-18574/2-A
Matrix: Solid
Analysis Batch: 18567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18574

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	27.9		mg/Kg		93	90 - 110		

QC Association Summary

Client: Vertex
Job ID: 885-17658-1
Project/Site: Endurance Lariat Water Line

GC VOA

Prep Batch: 18545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17658-1	BS24-38 4'	Total/NA	Solid	5030C	
885-17658-2	BS24-40 6.5'	Total/NA	Solid	5030C	
MB 885-18545/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-18545/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-18545/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 18665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17658-1	BS24-38 4'	Total/NA	Solid	8015M/D	18545
885-17658-2	BS24-40 6.5'	Total/NA	Solid	8015M/D	18545
MB 885-18545/1-A	Method Blank	Total/NA	Solid	8015M/D	18545
LCS 885-18545/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	18545

Analysis Batch: 18666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17658-1	BS24-38 4'	Total/NA	Solid	8021B	18545
885-17658-2	BS24-40 6.5'	Total/NA	Solid	8021B	18545
MB 885-18545/1-A	Method Blank	Total/NA	Solid	8021B	18545
LCS 885-18545/3-A	Lab Control Sample	Total/NA	Solid	8021B	18545

GC Semi VOA

Prep Batch: 18629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17658-1	BS24-38 4'	Total/NA	Solid	SHAKE	
885-17658-2	BS24-40 6.5'	Total/NA	Solid	SHAKE	
MB 885-18629/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18629/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 18695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17658-1	BS24-38 4'	Total/NA	Solid	8015M/D	18629
885-17658-2	BS24-40 6.5'	Total/NA	Solid	8015M/D	18629
MB 885-18629/1-A	Method Blank	Total/NA	Solid	8015M/D	18629
LCS 885-18629/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	18629

HPLC/IC

Analysis Batch: 18567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17658-1	BS24-38 4'	Total/NA	Solid	300.0	18574
MB 885-18574/1-A	Method Blank	Total/NA	Solid	300.0	18574
LCS 885-18574/2-A	Lab Control Sample	Total/NA	Solid	300.0	18574
MRL 885-18567/3	Lab Control Sample	Total/NA	Solid	300.0	

Prep Batch: 18574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17658-1	BS24-38 4'	Total/NA	Solid	300_Prep	
885-17658-2	BS24-40 6.5'	Total/NA	Solid	300_Prep	
MB 885-18574/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18574/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

QC Association Summary

Client: Vertex
Job ID: 885-17658-1
Project/Site: Endurance Lariat Water Line

HPLC/IC

Analysis Batch: 18689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17658-2	BS24-40 6.5'	Total/NA	Solid	300.0	18574

Lab Chronicle

Client: Vertex
Job ID: 885-17658-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-38 4'
Lab Sample ID: 885-17658-1
Date Collected: 12/20/24 09:00
Matrix: Solid
Date Received: 12/28/24 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18545	JP	EET ALB	12/30/24 09:49
Total/NA	Analysis	8015M/D		1	18665	JP	EET ALB	12/31/24 23:11
Total/NA	Prep	5030C			18545	JP	EET ALB	12/30/24 09:49
Total/NA	Analysis	8021B		1	18666	JP	EET ALB	12/31/24 23:11
Total/NA	Prep	SHAKE			18629	MI	EET ALB	12/31/24 11:06
Total/NA	Analysis	8015M/D		1	18695	MI	EET ALB	01/02/25 19:46
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		20	18567	EH	EET ALB	12/30/24 17:26

Client Sample ID: BS24-40 6.5'
Lab Sample ID: 885-17658-2
Date Collected: 12/20/24 09:30
Matrix: Solid
Date Received: 12/28/24 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18545	JP	EET ALB	12/30/24 09:49
Total/NA	Analysis	8015M/D		1	18665	JP	EET ALB	12/31/24 23:35
Total/NA	Prep	5030C			18545	JP	EET ALB	12/30/24 09:49
Total/NA	Analysis	8021B		1	18666	JP	EET ALB	12/31/24 23:35
Total/NA	Prep	SHAKE			18629	MI	EET ALB	12/31/24 11:06
Total/NA	Analysis	8015M/D		1	18695	MI	EET ALB	01/02/25 19:57
Total/NA	Prep	300_Prep			18574	JT	EET ALB	12/30/24 11:41
Total/NA	Analysis	300.0		50	18689	EH	EET ALB	01/02/25 11:27

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17658-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (bill to Solaris)

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: Endurance Lariat Water line

Project #: 246-03247

Project Manager: Chance Dixon

Cdixon@vertexresource.com

Sampler:

On Ice: ☒ Yes ☐ No mgp

# of Coolers: 1

Cooler Temp(including CF): 2.6 +0.1 = 2.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORA
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885-17658 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/20	9:00	Soil	BS24-38 4'	4oz	Ice		✓	✓					✓			
	9:30	✓	BS24-40 6.5'	✓	✓		✓	✓					✓			

Date	Time	Relinquished by	Received by	Via	Date	Time
12/20	5pm	Katrina Taylor			12/27/24	900
12/27/24	1900			courier	12/28/24	8:30

Remarks: bill to Solaris
ATTN: Rob Kirk (rob.kirk@ariswater.com)
CC: Cdixon@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17658-1

Login Number: 17658 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/9/2025 2:13:45 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-17861-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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Authorized for release by
Cheyenne Cason, Project Manager
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(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-17861-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-17861-1

Job ID: 885-17861-1 Eurofins Albuquerque

Job Narrative
885-17861-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/4/2025 8:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C.

Gasoline Range Organics
Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: BS24-02 8.0' (885-17861-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: BS24-03 7.0' (885-17861-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: BS24-01 8.0' (885-17861-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: BS24-02 8.0' (885-17861-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The following sample was diluted due to the nature of the sample matrix: BS24-02 8.0' (885-17861-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-01 8.0'
Lab Sample ID: 885-17861-1
Date Collected: 12/30/24 13:15
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	68		3.4		mg/Kg		01/06/25 08:30	01/06/25 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*346*	*S1+*	*35 - 166*	*01/06/25 08:30*	*01/06/25 12:10*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/06/25 08:30	01/06/25 12:10	1
Ethylbenzene	0.39		0.034		mg/Kg		01/06/25 08:30	01/06/25 12:10	1
Toluene	0.13		0.034		mg/Kg		01/06/25 08:30	01/06/25 12:10	1
Xylenes, Total	2.8		0.068		mg/Kg		01/06/25 08:30	01/06/25 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*142*		*48 - 145*	*01/06/25 08:30*	*01/06/25 12:10*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	850		9.5		mg/Kg		01/06/25 09:33	01/06/25 12:10	1
Motor Oil Range Organics [C28-C40]	330		47		mg/Kg		01/06/25 09:33	01/06/25 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*01/06/25 09:33*	*01/06/25 12:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	430		60		mg/Kg		01/06/25 11:55	01/06/25 13:30	20

Client Sample Results

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-02 8.0'
Lab Sample ID: 885-17861-2
Date Collected: 12/30/24 13:20
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	580		74		mg/Kg		01/06/25 08:30	01/06/25 11:46	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*194*	*S1+*	*35 - 166*	*01/06/25 08:30*	*01/06/25 11:46*	*20*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.19		0.037		mg/Kg		01/06/25 08:30	01/06/25 10:35	2
Ethylbenzene	5.2		0.074		mg/Kg		01/06/25 08:30	01/06/25 10:35	2
Toluene	5.5		0.074		mg/Kg		01/06/25 08:30	01/06/25 10:35	2
Xylenes, Total	30		1.5		mg/Kg		01/06/25 08:30	01/06/25 11:46	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*256*	*S1+*	*48 - 145*	*01/06/25 08:30*	*01/06/25 10:35*	*2*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1400		19		mg/Kg		01/06/25 09:33	01/06/25 20:11	2
Motor Oil Range Organics [C28-C40]	660		94		mg/Kg		01/06/25 09:33	01/06/25 20:11	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*01/06/25 09:33*	*01/06/25 20:11*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300		60		mg/Kg		01/06/25 11:55	01/06/25 13:59	20

Client Sample Results

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-03 7.0'
Lab Sample ID: 885-17861-3
Date Collected: 12/30/24 13:25
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	48		3.9		mg/Kg		01/06/25 08:30	01/06/25 12:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*258*	*S1+*	*35 - 166*	*01/06/25 08:30*	*01/06/25 12:57*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		01/06/25 08:30	01/06/25 12:57	1
Ethylbenzene	0.15		0.039		mg/Kg		01/06/25 08:30	01/06/25 12:57	1
Toluene	0.080		0.039		mg/Kg		01/06/25 08:30	01/06/25 12:57	1
Xylenes, Total	1.2		0.078		mg/Kg		01/06/25 08:30	01/06/25 12:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*48 - 145*	*01/06/25 08:30*	*01/06/25 12:57*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	710		9.6		mg/Kg		01/06/25 09:33	01/06/25 12:52	1
Motor Oil Range Organics [C28-C40]	330		48		mg/Kg		01/06/25 09:33	01/06/25 12:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/06/25 09:33*	*01/06/25 12:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	420		60		mg/Kg		01/06/25 11:55	01/06/25 14:49	20

Client Sample Results

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-16 4.0
Lab Sample ID: 885-17861-4
Date Collected: 12/31/24 12:45
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.2		mg/Kg		01/06/25 08:30	01/06/25 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*35 - 166*	*01/06/25 08:30*	*01/06/25 13:44*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/06/25 08:30	01/06/25 13:44	1
Ethylbenzene	ND		0.032		mg/Kg		01/06/25 08:30	01/06/25 13:44	1
Toluene	ND		0.032		mg/Kg		01/06/25 08:30	01/06/25 13:44	1
Xylenes, Total	ND		0.065		mg/Kg		01/06/25 08:30	01/06/25 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*01/06/25 08:30*	*01/06/25 13:44*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**10**		9.1		mg/Kg		01/06/25 09:33	01/07/25 16:03	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		01/06/25 09:33	01/07/25 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*109*		*62 - 134*	*01/06/25 09:33*	*01/07/25 16:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**280**		60		mg/Kg		01/06/25 11:55	01/06/25 14:58	20

Client Sample Results

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-17 4.0'
Lab Sample ID: 885-17861-5
Date Collected: 12/31/24 12:50
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.3		mg/Kg		01/06/25 09:33	01/06/25 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/06/25 09:33*	*01/06/25 19:32*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/06/25 09:33	01/06/25 19:32	1
Ethylbenzene	ND		0.033		mg/Kg		01/06/25 09:33	01/06/25 19:32	1
Toluene	ND		0.033		mg/Kg		01/06/25 09:33	01/06/25 19:32	1
Xylenes, Total	ND		0.067		mg/Kg		01/06/25 09:33	01/06/25 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*01/06/25 09:33*	*01/06/25 19:32*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**24**		9.3		mg/Kg		01/06/25 09:33	01/07/25 16:26	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/06/25 09:33	01/07/25 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*01/06/25 09:33*	*01/07/25 16:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**240**		60		mg/Kg		01/06/25 11:55	01/06/25 15:08	20

Client Sample Results

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-22 4.0'
Lab Sample ID: 885-17861-6
Date Collected: 12/31/24 12:55
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.2		mg/Kg		01/06/25 09:33	01/06/25 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*01/06/25 09:33*	*01/06/25 19:54*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/06/25 09:33	01/06/25 19:54	1
Ethylbenzene	ND		0.042		mg/Kg		01/06/25 09:33	01/06/25 19:54	1
Toluene	ND		0.042		mg/Kg		01/06/25 09:33	01/06/25 19:54	1
Xylenes, Total	ND		0.083		mg/Kg		01/06/25 09:33	01/06/25 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*01/06/25 09:33*	*01/06/25 19:54*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**210**		9.6		mg/Kg		01/06/25 09:33	01/06/25 13:24	1
Motor Oil Range Organics [C28-C40]	**120**		48		mg/Kg		01/06/25 09:33	01/06/25 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/06/25 09:33*	*01/06/25 13:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3900**		150		mg/Kg		01/06/25 11:55	01/06/25 19:14	50

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17861-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18829/1-A
Matrix: Solid
Analysis Batch: 18822

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18829

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/06/25 08:30	01/06/25 10:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*35 - 166*	*01/06/25 08:30*	*01/06/25 10:12*	*1*

Lab Sample ID: LCS 885-18829/2-A
Matrix: Solid
Analysis Batch: 18822

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18829

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	24.6		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*199*		*35 - 166*

Lab Sample ID: MB 885-18831/1-A
Matrix: Solid
Analysis Batch: 18889

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18831

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/06/25 09:33	01/06/25 14:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/06/25 09:33*	*01/06/25 14:06*	*1*

Lab Sample ID: LCS 885-18831/2-A
Matrix: Solid
Analysis Batch: 18889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18831

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.5		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*207*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18829/1-A
Matrix: Solid
Analysis Batch: 18823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18829

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/06/25 08:30	01/06/25 10:12	1
Ethylbenzene	ND		0.050		mg/Kg		01/06/25 08:30	01/06/25 10:12	1
Toluene	ND		0.050		mg/Kg		01/06/25 08:30	01/06/25 10:12	1
Xylenes, Total	ND		0.10		mg/Kg		01/06/25 08:30	01/06/25 10:12	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17861-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-18829/1-A
Matrix: Solid
Analysis Batch: 18823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18829

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		48 - 145	01/06/25 08:30	01/06/25 10:12	1

Lab Sample ID: LCS 885-18829/3-A
Matrix: Solid
Analysis Batch: 18823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18829

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	1.09		mg/Kg		109	70 - 130
Ethylbenzene	1.00	1.13		mg/Kg		113	70 - 130
m&p-Xylene	2.00	2.23		mg/Kg		112	70 - 130
o-Xylene	1.00	1.09		mg/Kg		109	70 - 130
Toluene	1.00	1.12		mg/Kg		112	70 - 130
Xylenes, Total	3.00	3.32		mg/Kg		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		48 - 145

Lab Sample ID: MB 885-18831/1-A
Matrix: Solid
Analysis Batch: 18890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18831

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		01/06/25 09:33	01/06/25 14:06	1
Ethylbenzene	ND		0.050	mg/Kg		01/06/25 09:33	01/06/25 14:06	1
Toluene	ND		0.050	mg/Kg		01/06/25 09:33	01/06/25 14:06	1
Xylenes, Total	ND		0.10	mg/Kg		01/06/25 09:33	01/06/25 14:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		48 - 145	01/06/25 09:33	01/06/25 14:06	1

Lab Sample ID: LCS 885-18831/3-A
Matrix: Solid
Analysis Batch: 18890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18831

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.942		mg/Kg		94	70 - 130
Ethylbenzene	1.00	0.959		mg/Kg		96	70 - 130
m&p-Xylene	2.00	1.90		mg/Kg		95	70 - 130
o-Xylene	1.00	0.953		mg/Kg		95	70 - 130
Toluene	1.00	0.951		mg/Kg		95	70 - 130
Xylenes, Total	3.00	2.85		mg/Kg		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		48 - 145

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17861-1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18832/1-A
Matrix: Solid
Analysis Batch: 18830

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18832

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/06/25 09:33	01/06/25 11:49	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/06/25 09:33	01/06/25 11:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*01/06/25 09:33*	*01/06/25 11:49*	*1*

Lab Sample ID: LCS 885-18832/2-A
Matrix: Solid
Analysis Batch: 18830

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18832

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	46.7		mg/Kg		93	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*

Lab Sample ID: 885-17861-1 MS
Matrix: Solid
Analysis Batch: 18830

Client Sample ID: BS24-01 8.0'
Prep Type: Total/NA
Prep Batch: 18832

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	850		45.5	823	4	mg/Kg		-65	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*116*		*62 - 134*

Lab Sample ID: 885-17861-1 MSD
Matrix: Solid
Analysis Batch: 18830

Client Sample ID: BS24-01 8.0'
Prep Type: Total/NA
Prep Batch: 18832

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	850		48.4	1080	E 4	mg/Kg		478	44 - 136	NC	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*121*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-18846/1-A
Matrix: Solid
Analysis Batch: 18852

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18846

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/06/25 11:55	01/06/25 12:50	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17861-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-18846/2-A
Matrix: Solid
Analysis Batch: 18852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18846

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	27.9		mg/Kg		93	90 - 110		

QC Association Summary

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

GC VOA

Analysis Batch: 18822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-1	BS24-01 8.0'	Total/NA	Solid	8015D	18829
885-17861-2	BS24-02 8.0'	Total/NA	Solid	8015D	18829
885-17861-3	BS24-03 7.0'	Total/NA	Solid	8015D	18829
885-17861-4	BS24-16 4.0	Total/NA	Solid	8015D	18829
MB 885-18829/1-A	Method Blank	Total/NA	Solid	8015D	18829
LCS 885-18829/2-A	Lab Control Sample	Total/NA	Solid	8015D	18829

Analysis Batch: 18823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-1	BS24-01 8.0'	Total/NA	Solid	8021B	18829
885-17861-2	BS24-02 8.0'	Total/NA	Solid	8021B	18829
885-17861-2	BS24-02 8.0'	Total/NA	Solid	8021B	18829
885-17861-3	BS24-03 7.0'	Total/NA	Solid	8021B	18829
885-17861-4	BS24-16 4.0	Total/NA	Solid	8021B	18829
MB 885-18829/1-A	Method Blank	Total/NA	Solid	8021B	18829
LCS 885-18829/3-A	Lab Control Sample	Total/NA	Solid	8021B	18829

Prep Batch: 18829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-1	BS24-01 8.0'	Total/NA	Solid	5035	
885-17861-2	BS24-02 8.0'	Total/NA	Solid	5035	
885-17861-3	BS24-03 7.0'	Total/NA	Solid	5035	
885-17861-4	BS24-16 4.0	Total/NA	Solid	5035	
MB 885-18829/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-18829/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-18829/3-A	Lab Control Sample	Total/NA	Solid	5035	

Prep Batch: 18831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-5	BS24-17 4.0'	Total/NA	Solid	5035	
885-17861-6	BS24-22 4.0'	Total/NA	Solid	5035	
MB 885-18831/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-18831/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-18831/3-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 18889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-5	BS24-17 4.0'	Total/NA	Solid	8015D	18831
885-17861-6	BS24-22 4.0'	Total/NA	Solid	8015D	18831
MB 885-18831/1-A	Method Blank	Total/NA	Solid	8015D	18831
LCS 885-18831/2-A	Lab Control Sample	Total/NA	Solid	8015D	18831

Analysis Batch: 18890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-5	BS24-17 4.0'	Total/NA	Solid	8021B	18831
885-17861-6	BS24-22 4.0'	Total/NA	Solid	8021B	18831
MB 885-18831/1-A	Method Blank	Total/NA	Solid	8021B	18831
LCS 885-18831/3-A	Lab Control Sample	Total/NA	Solid	8021B	18831

QC Association Summary

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

GC Semi VOA

Analysis Batch: 18830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-1	BS24-01 8.0'	Total/NA	Solid	8015D	18832
885-17861-2	BS24-02 8.0'	Total/NA	Solid	8015D	18832
885-17861-3	BS24-03 7.0'	Total/NA	Solid	8015D	18832
885-17861-6	BS24-22 4.0'	Total/NA	Solid	8015D	18832
MB 885-18832/1-A	Method Blank	Total/NA	Solid	8015D	18832
LCS 885-18832/2-A	Lab Control Sample	Total/NA	Solid	8015D	18832
885-17861-1 MS	BS24-01 8.0'	Total/NA	Solid	8015D	18832
885-17861-1 MSD	BS24-01 8.0'	Total/NA	Solid	8015D	18832

Prep Batch: 18832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-1	BS24-01 8.0'	Total/NA	Solid	SHAKE	
885-17861-2	BS24-02 8.0'	Total/NA	Solid	SHAKE	
885-17861-3	BS24-03 7.0'	Total/NA	Solid	SHAKE	
885-17861-4	BS24-16 4.0	Total/NA	Solid	SHAKE	
885-17861-5	BS24-17 4.0'	Total/NA	Solid	SHAKE	
885-17861-6	BS24-22 4.0'	Total/NA	Solid	SHAKE	
MB 885-18832/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18832/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-17861-1 MS	BS24-01 8.0'	Total/NA	Solid	SHAKE	
885-17861-1 MSD	BS24-01 8.0'	Total/NA	Solid	SHAKE	

Analysis Batch: 18932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-4	BS24-16 4.0	Total/NA	Solid	8015D	18832
885-17861-5	BS24-17 4.0'	Total/NA	Solid	8015D	18832

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Prep Batch: 18846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-1	BS24-01 8.0'	Total/NA	Solid	300_Prep	
885-17861-2	BS24-02 8.0'	Total/NA	Solid	300_Prep	
885-17861-3	BS24-03 7.0'	Total/NA	Solid	300_Prep	
885-17861-4	BS24-16 4.0	Total/NA	Solid	300_Prep	
885-17861-5	BS24-17 4.0'	Total/NA	Solid	300_Prep	
885-17861-6	BS24-22 4.0'	Total/NA	Solid	300_Prep	
MB 885-18846/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18846/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 18852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17861-1	BS24-01 8.0'	Total/NA	Solid	300.0	18846
885-17861-2	BS24-02 8.0'	Total/NA	Solid	300.0	18846
885-17861-3	BS24-03 7.0'	Total/NA	Solid	300.0	18846
885-17861-4	BS24-16 4.0	Total/NA	Solid	300.0	18846
885-17861-5	BS24-17 4.0'	Total/NA	Solid	300.0	18846
885-17861-6	BS24-22 4.0'	Total/NA	Solid	300.0	18846
MB 885-18846/1-A	Method Blank	Total/NA	Solid	300.0	18846
LCS 885-18846/2-A	Lab Control Sample	Total/NA	Solid	300.0	18846

Lab Chronicle

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-01 8.0'
Lab Sample ID: 885-17861-1
Date Collected: 12/30/24 13:15
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 12:10
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 12:10
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 12:10
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 13:30

Client Sample ID: BS24-02 8.0'
Lab Sample ID: 885-17861-2
Date Collected: 12/30/24 13:20
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		20	18822	JP	EET ALB	01/06/25 11:46
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		2	18823	JP	EET ALB	01/06/25 10:35
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		20	18823	JP	EET ALB	01/06/25 11:46
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		2	18830	MI	EET ALB	01/06/25 20:11
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 13:59

Client Sample ID: BS24-03 7.0'
Lab Sample ID: 885-17861-3
Date Collected: 12/30/24 13:25
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 12:57
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 12:57
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 12:52
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 14:49

Lab Chronicle

Client: Vertex
Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-16 4.0
Lab Sample ID: 885-17861-4
Date Collected: 12/31/24 12:45
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 13:44
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 13:44
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18932	DH	EET ALB	01/07/25 16:03
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 14:58

Client Sample ID: BS24-17 4.0'
Lab Sample ID: 885-17861-5
Date Collected: 12/31/24 12:50
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18889	AT	EET ALB	01/06/25 19:32
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8021B		1	18890	AT	EET ALB	01/06/25 19:32
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18932	DH	EET ALB	01/07/25 16:26
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 15:08

Client Sample ID: BS24-22 4.0'
Lab Sample ID: 885-17861-6
Date Collected: 12/31/24 12:55
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18889	AT	EET ALB	01/06/25 19:54
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8021B		1	18890	AT	EET ALB	01/06/25 19:54
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 13:24
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		50	18852	JT	EET ALB	01/06/25 19:14

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17861-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr
Carlsbad, NM 88220

Phone #: 575-725-5001

email or Fax#: QA File

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24 hr

Project Name: Endurance Lariat Water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☑ Yes ☐ No 409

# of Coolers: 1

Cooler Temp(including CF): 2.0-0.2=1.8 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109 885-17861 COC
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12.30	1315	Soil	BS24-01 8.0'	4oz	ICE											
↓	1320	↓	BS24-02 8.0'	↓	ICE											
↓	1325	↓	BS24-03 7.0'	↓	↓											
12.31	1245	Soil	BS24-16 4.0'	4oz	ICE											
↓	1250	↓	BS24-17 4.0'	↓	↓											
↓	1255	↓	BS24-22 4.0' ~~4.5~~ AL 12.31.24	↓	↓											

Date	Time	Relinquished by	Received by	Via	Date	Time
01/03/25	1000				1/3/25	1000
1/3/25	1910			courier	1/5/25	8:05

Remarks: Bill to Solaris (Rob Kirk)
cc: cDixon@vertexresource.com
ALudvik@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17861-1

Login Number: 17861 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 12/20/2024 12:29:45 PM

JOB DESCRIPTION

Endurance Lariate Water Line

JOB NUMBER

885-17036-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
12/20/2024 12:29:45 PM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariate Water Line

Laboratory Job ID: 885-17036-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariate Water Line

Job ID: 885-17036-1

Job ID: 885-17036-1 Eurofins Albuquerque

Job Narrative
885-17036-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/14/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 885-17869 and analytical batch 885-18021 recovered outside control limits for the following analytes: Diesel Range Organics [C10-C28]. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8015D_DRO: The surrogate recovery for the blank associated with preparation batch 885-17869 and analytical batch 885-18021 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

Client Sample ID: WS24-14 0-4'
Lab Sample ID: 885-17036-1
Date Collected: 12/11/24 11:45
Matrix: Solid
Date Received: 12/14/24 08:00

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		12/16/24 10:30	12/17/24 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*12/16/24 10:30*	*12/17/24 17:22*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/16/24 10:30	12/17/24 17:22	1
Ethylbenzene	ND		0.048		mg/Kg		12/16/24 10:30	12/17/24 17:22	1
Toluene	ND		0.048		mg/Kg		12/16/24 10:30	12/17/24 17:22	1
Xylenes, Total	ND		0.096		mg/Kg		12/16/24 10:30	12/17/24 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*12/16/24 10:30*	*12/17/24 17:22*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND	*+	9.4		mg/Kg		12/16/24 15:47	12/19/24 01:47	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		12/16/24 15:47	12/19/24 01:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*	*12/16/24 15:47*	*12/19/24 01:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/16/24 12:56	12/16/24 15:44	20

Client Sample Results

Client: Vertex
Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

Client Sample ID: WS24-04 0-5'
Lab Sample ID: 885-17036-2
Date Collected: 12/12/24 11:50
Matrix: Solid
Date Received: 12/14/24 08:00

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		12/16/24 10:30	12/17/24 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*12/16/24 10:30*	*12/17/24 18:09*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/16/24 10:30	12/17/24 18:09	1
Ethylbenzene	ND		0.047		mg/Kg		12/16/24 10:30	12/17/24 18:09	1
Toluene	ND		0.047		mg/Kg		12/16/24 10:30	12/17/24 18:09	1
Xylenes, Total	ND		0.095		mg/Kg		12/16/24 10:30	12/17/24 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*	*12/16/24 10:30*	*12/17/24 18:09*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND	*+	9.9		mg/Kg		12/16/24 15:47	12/19/24 01:58	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		12/16/24 15:47	12/19/24 01:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*12/16/24 15:47*	*12/19/24 01:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		60		mg/Kg		12/16/24 12:56	12/16/24 15:53	20

Client Sample Results

Client: Vertex
Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

Client Sample ID: WS24-08 0-4'
Lab Sample ID: 885-17036-3
Date Collected: 12/12/24 11:55
Matrix: Solid
Date Received: 12/14/24 08:00

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		12/16/24 10:30	12/17/24 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*12/16/24 10:30*	*12/17/24 18:32*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/16/24 10:30	12/17/24 18:32	1
Ethylbenzene	ND		0.047		mg/Kg		12/16/24 10:30	12/17/24 18:32	1
Toluene	ND		0.047		mg/Kg		12/16/24 10:30	12/17/24 18:32	1
Xylenes, Total	ND		0.094		mg/Kg		12/16/24 10:30	12/17/24 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*12/16/24 10:30*	*12/17/24 18:32*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND	*+	9.2		mg/Kg		12/16/24 15:47	12/19/24 02:09	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		12/16/24 15:47	12/19/24 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*12/16/24 15:47*	*12/19/24 02:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/16/24 12:56	12/16/24 16:03	20

Client Sample Results

Client: Vertex
Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

Client Sample ID: WS24-09 0-4'
Lab Sample ID: 885-17036-4
Date Collected: 12/12/24 12:00
Matrix: Solid
Date Received: 12/14/24 08:00

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		12/16/24 10:30	12/17/24 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*12/16/24 10:30*	*12/17/24 18:56*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		12/16/24 10:30	12/17/24 18:56	1
Ethylbenzene	ND		0.047		mg/Kg		12/16/24 10:30	12/17/24 18:56	1
Toluene	ND		0.047		mg/Kg		12/16/24 10:30	12/17/24 18:56	1
Xylenes, Total	ND		0.094		mg/Kg		12/16/24 10:30	12/17/24 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*	*12/16/24 10:30*	*12/17/24 18:56*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND	*+	9.7		mg/Kg		12/16/24 15:47	12/19/24 02:19	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		12/16/24 15:47	12/19/24 02:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*117*		*62 - 134*	*12/16/24 15:47*	*12/19/24 02:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/16/24 12:56	12/16/24 16:13	20

Client Sample Results

Client: Vertex
Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

Client Sample ID: BS24-11 4.0'
Lab Sample ID: 885-17036-5
Date Collected: 12/12/24 12:05
Matrix: Solid
Date Received: 12/14/24 08:00

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		12/16/24 10:30	12/17/24 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*12/16/24 10:30*	*12/17/24 19:20*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		12/16/24 10:30	12/17/24 19:20	1
Ethylbenzene	ND		0.048		mg/Kg		12/16/24 10:30	12/17/24 19:20	1
Toluene	ND		0.048		mg/Kg		12/16/24 10:30	12/17/24 19:20	1
Xylenes, Total	ND		0.096		mg/Kg		12/16/24 10:30	12/17/24 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*12/16/24 10:30*	*12/17/24 19:20*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND	*+	9.2		mg/Kg		12/16/24 15:47	12/19/24 02:30	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		12/16/24 15:47	12/19/24 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*123*		*62 - 134*	*12/16/24 15:47*	*12/19/24 02:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		12/16/24 12:56	12/16/24 16:23	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariate Water Line

Job ID: 885-17036-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-17832/1-A
Matrix: Solid
Analysis Batch: 17909

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17832

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		12/16/24 10:30	12/17/24 11:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*12/16/24 10:30*	*12/17/24 11:50*	*1*

Lab Sample ID: LCS 885-17832/2-A
Matrix: Solid
Analysis Batch: 17909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17832

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	26.9		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*198*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-17832/1-A
Matrix: Solid
Analysis Batch: 17910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17832

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		12/16/24 10:30	12/17/24 11:50	1
Ethylbenzene	ND		0.050		mg/Kg		12/16/24 10:30	12/17/24 11:50	1
Toluene	ND		0.050		mg/Kg		12/16/24 10:30	12/17/24 11:50	1
Xylenes, Total	ND		0.10		mg/Kg		12/16/24 10:30	12/17/24 11:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*12/16/24 10:30*	*12/17/24 11:50*	*1*

Lab Sample ID: LCS 885-17832/3-A
Matrix: Solid
Analysis Batch: 17910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17832

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.945		mg/Kg		95	70 - 130		
Ethylbenzene			1.00	0.993		mg/Kg		99	70 - 130		
m,p-Xylene			2.00	1.96		mg/Kg		98	70 - 130		
o-Xylene			1.00	0.964		mg/Kg		96	70 - 130		
Toluene			1.00	0.988		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariate Water Line

Job ID: 885-17036-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-17869/1-A
Matrix: Solid
Analysis Batch: 18021

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17869

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		12/16/24 15:47	12/18/24 23:42	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		12/16/24 15:47	12/18/24 23:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*135*	*S1+*	*62 - 134*	*12/16/24 15:47*	*12/18/24 23:42*	*1*

Lab Sample ID: LCS 885-17869/2-A
Matrix: Solid
Analysis Batch: 18021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17869

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	69.8	*+	mg/Kg		140	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*134*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MRL 885-17845/32
Matrix: Solid
Analysis Batch: 17845

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.520		mg/L		104	50 - 150		

Lab Sample ID: MB 885-17848/1-A
Matrix: Solid
Analysis Batch: 17845

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17848

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		12/16/24 12:56	12/16/24 13:24	1

Lab Sample ID: LCS 885-17848/2-A
Matrix: Solid
Analysis Batch: 17845

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17848

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.3		mg/Kg		94	90 - 110		

QC Association Summary

Client: Vertex Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

GC VOA

Prep Batch: 17832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17036-1	WS24-14 0-4'	Total/NA	Solid	5030C	
885-17036-2	WS24-04 0-5'	Total/NA	Solid	5030C	
885-17036-3	WS24-08 0-4'	Total/NA	Solid	5030C	
885-17036-4	WS24-09 0-4'	Total/NA	Solid	5030C	
885-17036-5	BS24-11 4.0'	Total/NA	Solid	5030C	
MB 885-17832/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-17832/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-17832/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 17909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17036-1	WS24-14 0-4'	Total/NA	Solid	8015M/D	17832
885-17036-2	WS24-04 0-5'	Total/NA	Solid	8015M/D	17832
885-17036-3	WS24-08 0-4'	Total/NA	Solid	8015M/D	17832
885-17036-4	WS24-09 0-4'	Total/NA	Solid	8015M/D	17832
885-17036-5	BS24-11 4.0'	Total/NA	Solid	8015M/D	17832
MB 885-17832/1-A	Method Blank	Total/NA	Solid	8015M/D	17832
LCS 885-17832/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	17832

Analysis Batch: 17910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17036-1	WS24-14 0-4'	Total/NA	Solid	8021B	17832
885-17036-2	WS24-04 0-5'	Total/NA	Solid	8021B	17832
885-17036-3	WS24-08 0-4'	Total/NA	Solid	8021B	17832
885-17036-4	WS24-09 0-4'	Total/NA	Solid	8021B	17832
885-17036-5	BS24-11 4.0'	Total/NA	Solid	8021B	17832
MB 885-17832/1-A	Method Blank	Total/NA	Solid	8021B	17832
LCS 885-17832/3-A	Lab Control Sample	Total/NA	Solid	8021B	17832

GC Semi VOA

Prep Batch: 17869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17036-1	WS24-14 0-4'	Total/NA	Solid	SHAKE	
885-17036-2	WS24-04 0-5'	Total/NA	Solid	SHAKE	
885-17036-3	WS24-08 0-4'	Total/NA	Solid	SHAKE	
885-17036-4	WS24-09 0-4'	Total/NA	Solid	SHAKE	
885-17036-5	BS24-11 4.0'	Total/NA	Solid	SHAKE	
MB 885-17869/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-17869/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 18021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17036-1	WS24-14 0-4'	Total/NA	Solid	8015M/D	17869
885-17036-2	WS24-04 0-5'	Total/NA	Solid	8015M/D	17869
885-17036-3	WS24-08 0-4'	Total/NA	Solid	8015M/D	17869
885-17036-4	WS24-09 0-4'	Total/NA	Solid	8015M/D	17869
885-17036-5	BS24-11 4.0'	Total/NA	Solid	8015M/D	17869
MB 885-17869/1-A	Method Blank	Total/NA	Solid	8015M/D	17869
LCS 885-17869/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	17869

QC Association Summary

Client: Vertex Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

HPLC/IC

Analysis Batch: 17845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17036-1	WS24-14 0-4'	Total/NA	Solid	300.0	17848
885-17036-2	WS24-04 0-5'	Total/NA	Solid	300.0	17848
885-17036-3	WS24-08 0-4'	Total/NA	Solid	300.0	17848
885-17036-4	WS24-09 0-4'	Total/NA	Solid	300.0	17848
885-17036-5	BS24-11 4.0'	Total/NA	Solid	300.0	17848
MB 885-17848/1-A	Method Blank	Total/NA	Solid	300.0	17848
LCS 885-17848/2-A	Lab Control Sample	Total/NA	Solid	300.0	17848
MRL 885-17845/32	Lab Control Sample	Total/NA	Solid	300.0	

Prep Batch: 17848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17036-1	WS24-14 0-4'	Total/NA	Solid	300_Prep	
885-17036-2	WS24-04 0-5'	Total/NA	Solid	300_Prep	
885-17036-3	WS24-08 0-4'	Total/NA	Solid	300_Prep	
885-17036-4	WS24-09 0-4'	Total/NA	Solid	300_Prep	
885-17036-5	BS24-11 4.0'	Total/NA	Solid	300_Prep	
MB 885-17848/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-17848/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Lab Chronicle

Client: Vertex
Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

Client Sample ID: WS24-14 0-4'
Lab Sample ID: 885-17036-1
Date Collected: 12/11/24 11:45
Matrix: Solid
Date Received: 12/14/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8015M/D		1	17909	JP	EET ALB	12/17/24 17:22
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8021B		1	17910	JP	EET ALB	12/17/24 17:22
Total/NA	Prep	SHAKE			17869	MI	EET ALB	12/16/24 15:47
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/19/24 01:47
Total/NA	Prep	300_Prep			17848	JT	EET ALB	12/16/24 12:56
Total/NA	Analysis	300.0		20	17845	EH	EET ALB	12/16/24 15:44

Client Sample ID: WS24-04 0-5'
Lab Sample ID: 885-17036-2
Date Collected: 12/12/24 11:50
Matrix: Solid
Date Received: 12/14/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8015M/D		1	17909	JP	EET ALB	12/17/24 18:09
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8021B		1	17910	JP	EET ALB	12/17/24 18:09
Total/NA	Prep	SHAKE			17869	MI	EET ALB	12/16/24 15:47
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/19/24 01:58
Total/NA	Prep	300_Prep			17848	JT	EET ALB	12/16/24 12:56
Total/NA	Analysis	300.0		20	17845	EH	EET ALB	12/16/24 15:53

Client Sample ID: WS24-08 0-4'
Lab Sample ID: 885-17036-3
Date Collected: 12/12/24 11:55
Matrix: Solid
Date Received: 12/14/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8015M/D		1	17909	JP	EET ALB	12/17/24 18:32
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8021B		1	17910	JP	EET ALB	12/17/24 18:32
Total/NA	Prep	SHAKE			17869	MI	EET ALB	12/16/24 15:47
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/19/24 02:09
Total/NA	Prep	300_Prep			17848	JT	EET ALB	12/16/24 12:56
Total/NA	Analysis	300.0		20	17845	EH	EET ALB	12/16/24 16:03

Client Sample ID: WS24-09 0-4'
Lab Sample ID: 885-17036-4
Date Collected: 12/12/24 12:00
Matrix: Solid
Date Received: 12/14/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8015M/D		1	17909	JP	EET ALB	12/17/24 18:56

Lab Chronicle

Client: Vertex
Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

Client Sample ID: WS24-09 0-4'
Lab Sample ID: 885-17036-4
Date Collected: 12/12/24 12:00
Matrix: Solid
Date Received: 12/14/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8021B		1	17910	JP	EET ALB	12/17/24 18:56
Total/NA	Prep	SHAKE			17869	MI	EET ALB	12/16/24 15:47
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/19/24 02:19
Total/NA	Prep	300_Prep			17848	JT	EET ALB	12/16/24 12:56
Total/NA	Analysis	300.0		20	17845	EH	EET ALB	12/16/24 16:13

Client Sample ID: BS24-11 4.0'
Lab Sample ID: 885-17036-5
Date Collected: 12/12/24 12:05
Matrix: Solid
Date Received: 12/14/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8015M/D		1	17909	JP	EET ALB	12/17/24 19:20
Total/NA	Prep	5030C			17832	AT	EET ALB	12/16/24 10:30
Total/NA	Analysis	8021B		1	17910	JP	EET ALB	12/17/24 19:20
Total/NA	Prep	SHAKE			17869	MI	EET ALB	12/16/24 15:47
Total/NA	Analysis	8015M/D		1	18021	MI	EET ALB	12/19/24 02:30
Total/NA	Prep	300_Prep			17848	JT	EET ALB	12/16/24 12:56
Total/NA	Analysis	300.0		20	17845	EH	EET ALB	12/16/24 16:23

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17036-1
Project/Site: Endurance Lariate Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr.
Carlsbad, NM, 88220

Phone #: 575-725-5001

email or Fax#: On File

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 5 Days

Project Name: Endurance Lariat Water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☒ Yes ☐ No mojo

# of Coolers: 1

Cooler Temp(Including CF): 3.4-0.1=3.1 (°C)

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

885-17036 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12.11.24	1145	Soil	WS24-14 0-4'	4oz	Ice	1										
12.12.24	1150		WS24-04 0-5'			2										
	1155		WS24-08 0-4'			3										
	1200		WS24-09 0-4'			4										
	1205		BS24-11 4.0'			5										

Date	Time	Relinquished by	Received by	Via	Date	Time
12/13/24	1015				12/13/24	1015
12/13/24	1900			courier	12/14/24	8:00

Remarks: Bill to Solaris (Rob Kirk)
CC: CDixon@Vertexresource.com
AZudvik@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17036-1

Login Number: 17036 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/7/2025 1:10:07 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-17862-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

my EOL

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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1/7/2025 1:10:07 PM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-17862-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex Job ID: 885-17862-1
Project: Endurance Lariat Water Line

Job ID: 885-17862-1 Eurofins Albuquerque

Job Narrative
885-17862-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/4/2025 8:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-07 4.5'
Lab Sample ID: 885-17862-1
Date Collected: 01/01/25 10:00
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.5		mg/Kg		01/06/25 08:30	01/06/25 14:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*35 - 166*	*01/06/25 08:30*	*01/06/25 14:08*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/06/25 08:30	01/06/25 14:08	1
Ethylbenzene	ND		0.035		mg/Kg		01/06/25 08:30	01/06/25 14:08	1
Toluene	ND		0.035		mg/Kg		01/06/25 08:30	01/06/25 14:08	1
Xylenes, Total	ND		0.071		mg/Kg		01/06/25 08:30	01/06/25 14:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*01/06/25 08:30*	*01/06/25 14:08*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**500**		9.7		mg/Kg		01/06/25 09:33	01/06/25 13:57	1
Motor Oil Range Organics [C28-C40]	**220**		49		mg/Kg		01/06/25 09:33	01/06/25 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*01/06/25 09:33*	*01/06/25 13:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1400**		60		mg/Kg		01/06/25 11:55	01/06/25 15:28	20

Client Sample Results

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-08 4.5'
Lab Sample ID: 885-17862-2
Date Collected: 01/01/25 10:05
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.3		mg/Kg		01/06/25 08:30	01/06/25 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*35 - 166*	*01/06/25 08:30*	*01/06/25 15:19*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/06/25 08:30	01/06/25 15:19	1
Ethylbenzene	ND		0.033		mg/Kg		01/06/25 08:30	01/06/25 15:19	1
Toluene	ND		0.033		mg/Kg		01/06/25 08:30	01/06/25 15:19	1
Xylenes, Total	ND		0.065		mg/Kg		01/06/25 08:30	01/06/25 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*	*01/06/25 08:30*	*01/06/25 15:19*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**350**		9.6		mg/Kg		01/06/25 09:33	01/06/25 14:07	1
Motor Oil Range Organics [C28-C40]	**170**		48		mg/Kg		01/06/25 09:33	01/06/25 14:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*01/06/25 09:33*	*01/06/25 14:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**780**		59		mg/Kg		01/06/25 11:55	01/06/25 15:38	20

Client Sample Results

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-09 4.5'
Lab Sample ID: 885-17862-3
Date Collected: 01/01/25 10:10
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	6.7		3.3		mg/Kg		01/06/25 08:30	01/06/25 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*150*		*35 - 166*	*01/06/25 08:30*	*01/06/25 16:30*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/06/25 08:30	01/06/25 16:30	1
Ethylbenzene	ND		0.033		mg/Kg		01/06/25 08:30	01/06/25 16:30	1
Toluene	ND		0.033		mg/Kg		01/06/25 08:30	01/06/25 16:30	1
Xylenes, Total	ND		0.066		mg/Kg		01/06/25 08:30	01/06/25 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*48 - 145*	*01/06/25 08:30*	*01/06/25 16:30*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	230		9.2		mg/Kg		01/06/25 09:33	01/06/25 14:18	1
Motor Oil Range Organics [C28-C40]	110		46		mg/Kg		01/06/25 09:33	01/06/25 14:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*01/06/25 09:33*	*01/06/25 14:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	840		59		mg/Kg		01/06/25 11:55	01/06/25 15:48	20

Client Sample Results

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-10 4.5'
Lab Sample ID: 885-17862-4
Date Collected: 01/01/25 10:15
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.8		mg/Kg		01/06/25 08:30	01/06/25 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*35 - 166*	*01/06/25 08:30*	*01/06/25 16:54*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/06/25 08:30	01/06/25 16:54	1
Ethylbenzene	ND		0.038		mg/Kg		01/06/25 08:30	01/06/25 16:54	1
Toluene	ND		0.038		mg/Kg		01/06/25 08:30	01/06/25 16:54	1
Xylenes, Total	ND		0.076		mg/Kg		01/06/25 08:30	01/06/25 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*	*01/06/25 08:30*	*01/06/25 16:54*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**130**		9.8		mg/Kg		01/06/25 09:33	01/06/25 14:29	1
Motor Oil Range Organics [C28-C40]	**75**		49		mg/Kg		01/06/25 09:33	01/06/25 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*01/06/25 09:33*	*01/06/25 14:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**		60		mg/Kg		01/06/25 11:55	01/06/25 15:57	20

Client Sample Results

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-34 8.0'
Lab Sample ID: 885-17862-5
Date Collected: 01/01/25 12:30
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.8		mg/Kg		01/06/25 08:30	01/06/25 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*01/06/25 08:30*	*01/06/25 17:18*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/06/25 08:30	01/06/25 17:18	1
Ethylbenzene	ND		0.038		mg/Kg		01/06/25 08:30	01/06/25 17:18	1
Toluene	ND		0.038		mg/Kg		01/06/25 08:30	01/06/25 17:18	1
Xylenes, Total	ND		0.076		mg/Kg		01/06/25 08:30	01/06/25 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*	*01/06/25 08:30*	*01/06/25 17:18*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		01/06/25 09:33	01/06/25 14:39	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/06/25 09:33	01/06/25 14:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*01/06/25 09:33*	*01/06/25 14:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		61		mg/Kg		01/06/25 11:55	01/06/25 16:07	20

Client Sample Results

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-34 0-2'
Lab Sample ID: 885-17862-6
Date Collected: 01/01/25 13:00
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.0		mg/Kg		01/06/25 08:30	01/06/25 18:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*01/06/25 08:30*	*01/06/25 18:05*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		01/06/25 08:30	01/06/25 18:05	1
Ethylbenzene	ND		0.040		mg/Kg		01/06/25 08:30	01/06/25 18:05	1
Toluene	ND		0.040		mg/Kg		01/06/25 08:30	01/06/25 18:05	1
Xylenes, Total	ND		0.081		mg/Kg		01/06/25 08:30	01/06/25 18:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*48 - 145*	*01/06/25 08:30*	*01/06/25 18:05*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		01/06/25 09:33	01/06/25 14:50	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		01/06/25 09:33	01/06/25 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*01/06/25 09:33*	*01/06/25 14:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/06/25 11:55	01/06/25 16:17	20

Client Sample Results

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-35 0-4.5'
Lab Sample ID: 885-17862-7
Date Collected: 01/01/25 13:10
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.3		mg/Kg		01/06/25 08:30	01/06/25 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*01/06/25 08:30*	*01/06/25 18:29*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/06/25 08:30	01/06/25 18:29	1
Ethylbenzene	ND		0.033		mg/Kg		01/06/25 08:30	01/06/25 18:29	1
Toluene	ND		0.033		mg/Kg		01/06/25 08:30	01/06/25 18:29	1
Xylenes, Total	ND		0.065		mg/Kg		01/06/25 08:30	01/06/25 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*01/06/25 08:30*	*01/06/25 18:29*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		01/06/25 09:33	01/06/25 15:01	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/06/25 09:33	01/06/25 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*108*		*62 - 134*	*01/06/25 09:33*	*01/06/25 15:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**180**		61		mg/Kg		01/06/25 11:55	01/06/25 16:47	20

Client Sample Results

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-36 0-4.5'
Lab Sample ID: 885-17862-8
Date Collected: 01/01/25 13:20
Matrix: Solid
Date Received: 01/04/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.5		mg/Kg		01/06/25 08:30	01/06/25 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*01/06/25 08:30*	*01/06/25 18:52*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/06/25 08:30	01/06/25 18:52	1
Ethylbenzene	ND		0.035		mg/Kg		01/06/25 08:30	01/06/25 18:52	1
Toluene	ND		0.035		mg/Kg		01/06/25 08:30	01/06/25 18:52	1
Xylenes, Total	ND		0.071		mg/Kg		01/06/25 08:30	01/06/25 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*48 - 145*	*01/06/25 08:30*	*01/06/25 18:52*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/06/25 09:33	01/06/25 15:11	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/06/25 09:33	01/06/25 15:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*01/06/25 09:33*	*01/06/25 15:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**230**		60		mg/Kg		01/06/25 11:55	01/06/25 16:57	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17862-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18829/1-A
Matrix: Solid
Analysis Batch: 18822

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18829

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/06/25 08:30	01/06/25 10:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*35 - 166*	*01/06/25 08:30*	*01/06/25 10:12*	*1*

Lab Sample ID: LCS 885-18829/2-A
Matrix: Solid
Analysis Batch: 18822

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18829

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	24.6		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*199*		*35 - 166*

Lab Sample ID: 885-17862-1 MS
Matrix: Solid
Analysis Batch: 18822

Client Sample ID: BS24-07 4.5'
Prep Type: Total/NA
Prep Batch: 18829

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		17.7	21.3		mg/Kg		108	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*232*		*35 - 166*

Lab Sample ID: 885-17862-1 MSD
Matrix: Solid
Analysis Batch: 18822

Client Sample ID: BS24-07 4.5'
Prep Type: Total/NA
Prep Batch: 18829

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		17.7	21.7		mg/Kg		110	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*243*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18829/1-A
Matrix: Solid
Analysis Batch: 18823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18829

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/06/25 08:30	01/06/25 10:12	1
Ethylbenzene	ND		0.050		mg/Kg		01/06/25 08:30	01/06/25 10:12	1
Toluene	ND		0.050		mg/Kg		01/06/25 08:30	01/06/25 10:12	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17862-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-18829/1-A
Matrix: Solid
Analysis Batch: 18823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18829

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/06/25 08:30	01/06/25 10:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*01/06/25 08:30*	*01/06/25 10:12*	*1*

Lab Sample ID: LCS 885-18829/3-A
Matrix: Solid
Analysis Batch: 18823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18829

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.09		mg/Kg		109	70 - 130		
Ethylbenzene			1.00	1.13		mg/Kg		113	70 - 130		
m&p-Xylene			2.00	2.23		mg/Kg		112	70 - 130		
o-Xylene			1.00	1.09		mg/Kg		109	70 - 130		
Toluene			1.00	1.12		mg/Kg		112	70 - 130		
Xylenes, Total			3.00	3.32		mg/Kg		111	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*

Lab Sample ID: 885-17862-2 MS
Matrix: Solid
Analysis Batch: 18823

Client Sample ID: BS24-08 4.5'
Prep Type: Total/NA
Prep Batch: 18829

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.651	0.702		mg/Kg		108	70 - 130		
Ethylbenzene	ND		0.651	0.718		mg/Kg		110	70 - 130		
m&p-Xylene	ND		1.30	1.38		mg/Kg		106	70 - 130		
o-Xylene	ND		0.651	0.679		mg/Kg		104	70 - 130		
Toluene	ND		0.651	0.727		mg/Kg		112	70 - 130		
Xylenes, Total	ND		1.95	2.06		mg/Kg		106	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*

Lab Sample ID: 885-17862-2 MSD
Matrix: Solid
Analysis Batch: 18823

Client Sample ID: BS24-08 4.5'
Prep Type: Total/NA
Prep Batch: 18829

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.651	0.690		mg/Kg		106	70 - 130	2	20
Ethylbenzene	ND		0.651	0.721		mg/Kg		111	70 - 130	1	20
m&p-Xylene	ND		1.30	1.40		mg/Kg		108	70 - 130	1	20
o-Xylene	ND		0.651	0.693		mg/Kg		106	70 - 130	2	20
Toluene	ND		0.651	0.716		mg/Kg		110	70 - 130	2	20
Xylenes, Total	ND		1.95	2.10		mg/Kg		107	70 - 130	2	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17862-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-17862-2 MSD
Matrix: Solid
Analysis Batch: 18823

Client Sample ID: BS24-08 4.5'
Prep Type: Total/NA
Prep Batch: 18829

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18832/1-A
Matrix: Solid
Analysis Batch: 18830

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18832

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/06/25 09:33	01/06/25 11:49	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/06/25 09:33	01/06/25 11:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*01/06/25 09:33*	*01/06/25 11:49*	*1*

Lab Sample ID: LCS 885-18832/2-A
Matrix: Solid
Analysis Batch: 18830

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18832

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	46.7		mg/Kg		93	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-18846/1-A
Matrix: Solid
Analysis Batch: 18852

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18846

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/06/25 11:55	01/06/25 12:50	1

Lab Sample ID: LCS 885-18846/2-A
Matrix: Solid
Analysis Batch: 18852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18846

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	27.9		mg/Kg		93	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17862-1

GC VOA

Analysis Batch: 18822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17862-1	BS24-07 4.5'	Total/NA	Solid	8015D	18829
885-17862-2	BS24-08 4.5'	Total/NA	Solid	8015D	18829
885-17862-3	BS24-09 4.5'	Total/NA	Solid	8015D	18829
885-17862-4	BS24-10 4.5'	Total/NA	Solid	8015D	18829
885-17862-5	BS24-34 8.0'	Total/NA	Solid	8015D	18829
885-17862-6	WS24-34 0-2'	Total/NA	Solid	8015D	18829
885-17862-7	WS24-35 0-4.5'	Total/NA	Solid	8015D	18829
885-17862-8	WS24-36 0-4.5'	Total/NA	Solid	8015D	18829
MB 885-18829/1-A	Method Blank	Total/NA	Solid	8015D	18829
LCS 885-18829/2-A	Lab Control Sample	Total/NA	Solid	8015D	18829
885-17862-1 MS	BS24-07 4.5'	Total/NA	Solid	8015D	18829
885-17862-1 MSD	BS24-07 4.5'	Total/NA	Solid	8015D	18829

Analysis Batch: 18823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17862-1	BS24-07 4.5'	Total/NA	Solid	8021B	18829
885-17862-2	BS24-08 4.5'	Total/NA	Solid	8021B	18829
885-17862-3	BS24-09 4.5'	Total/NA	Solid	8021B	18829
885-17862-4	BS24-10 4.5'	Total/NA	Solid	8021B	18829
885-17862-5	BS24-34 8.0'	Total/NA	Solid	8021B	18829
885-17862-6	WS24-34 0-2'	Total/NA	Solid	8021B	18829
885-17862-7	WS24-35 0-4.5'	Total/NA	Solid	8021B	18829
885-17862-8	WS24-36 0-4.5'	Total/NA	Solid	8021B	18829
MB 885-18829/1-A	Method Blank	Total/NA	Solid	8021B	18829
LCS 885-18829/3-A	Lab Control Sample	Total/NA	Solid	8021B	18829
885-17862-2 MS	BS24-08 4.5'	Total/NA	Solid	8021B	18829
885-17862-2 MSD	BS24-08 4.5'	Total/NA	Solid	8021B	18829

Prep Batch: 18829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17862-1	BS24-07 4.5'	Total/NA	Solid	5035	
885-17862-2	BS24-08 4.5'	Total/NA	Solid	5035	
885-17862-3	BS24-09 4.5'	Total/NA	Solid	5035	
885-17862-4	BS24-10 4.5'	Total/NA	Solid	5035	
885-17862-5	BS24-34 8.0'	Total/NA	Solid	5035	
885-17862-6	WS24-34 0-2'	Total/NA	Solid	5035	
885-17862-7	WS24-35 0-4.5'	Total/NA	Solid	5035	
885-17862-8	WS24-36 0-4.5'	Total/NA	Solid	5035	
MB 885-18829/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-18829/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-18829/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-17862-1 MS	BS24-07 4.5'	Total/NA	Solid	5035	
885-17862-1 MSD	BS24-07 4.5'	Total/NA	Solid	5035	
885-17862-2 MS	BS24-08 4.5'	Total/NA	Solid	5035	
885-17862-2 MSD	BS24-08 4.5'	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 18830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17862-1	BS24-07 4.5'	Total/NA	Solid	8015D	18832

QC Association Summary

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

GC Semi VOA (Continued)

Analysis Batch: 18830 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17862-2	BS24-08 4.5'	Total/NA	Solid	8015D	18832
885-17862-3	BS24-09 4.5'	Total/NA	Solid	8015D	18832
885-17862-4	BS24-10 4.5'	Total/NA	Solid	8015D	18832
885-17862-5	BS24-34 8.0'	Total/NA	Solid	8015D	18832
885-17862-6	WS24-34 0-2'	Total/NA	Solid	8015D	18832
885-17862-7	WS24-35 0-4.5'	Total/NA	Solid	8015D	18832
885-17862-8	WS24-36 0-4.5'	Total/NA	Solid	8015D	18832
MB 885-18832/1-A	Method Blank	Total/NA	Solid	8015D	18832
LCS 885-18832/2-A	Lab Control Sample	Total/NA	Solid	8015D	18832

Prep Batch: 18832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17862-1	BS24-07 4.5'	Total/NA	Solid	SHAKE	
885-17862-2	BS24-08 4.5'	Total/NA	Solid	SHAKE	
885-17862-3	BS24-09 4.5'	Total/NA	Solid	SHAKE	
885-17862-4	BS24-10 4.5'	Total/NA	Solid	SHAKE	
885-17862-5	BS24-34 8.0'	Total/NA	Solid	SHAKE	
885-17862-6	WS24-34 0-2'	Total/NA	Solid	SHAKE	
885-17862-7	WS24-35 0-4.5'	Total/NA	Solid	SHAKE	
885-17862-8	WS24-36 0-4.5'	Total/NA	Solid	SHAKE	
MB 885-18832/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18832/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

HPLC/IC

Prep Batch: 18846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17862-1	BS24-07 4.5'	Total/NA	Solid	300_Prep	
885-17862-2	BS24-08 4.5'	Total/NA	Solid	300_Prep	
885-17862-3	BS24-09 4.5'	Total/NA	Solid	300_Prep	
885-17862-4	BS24-10 4.5'	Total/NA	Solid	300_Prep	
885-17862-5	BS24-34 8.0'	Total/NA	Solid	300_Prep	
885-17862-6	WS24-34 0-2'	Total/NA	Solid	300_Prep	
885-17862-7	WS24-35 0-4.5'	Total/NA	Solid	300_Prep	
885-17862-8	WS24-36 0-4.5'	Total/NA	Solid	300_Prep	
MB 885-18846/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18846/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 18852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17862-1	BS24-07 4.5'	Total/NA	Solid	300.0	18846
885-17862-2	BS24-08 4.5'	Total/NA	Solid	300.0	18846
885-17862-3	BS24-09 4.5'	Total/NA	Solid	300.0	18846
885-17862-4	BS24-10 4.5'	Total/NA	Solid	300.0	18846
885-17862-5	BS24-34 8.0'	Total/NA	Solid	300.0	18846
885-17862-6	WS24-34 0-2'	Total/NA	Solid	300.0	18846
885-17862-7	WS24-35 0-4.5'	Total/NA	Solid	300.0	18846
885-17862-8	WS24-36 0-4.5'	Total/NA	Solid	300.0	18846
MB 885-18846/1-A	Method Blank	Total/NA	Solid	300.0	18846
LCS 885-18846/2-A	Lab Control Sample	Total/NA	Solid	300.0	18846

Lab Chronicle

Client: Vertex
Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-07 4.5'
Lab Sample ID: 885-17862-1
Date Collected: 01/01/25 10:00
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 14:08
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 14:08
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 13:57
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 15:28

Client Sample ID: BS24-08 4.5'
Lab Sample ID: 885-17862-2
Date Collected: 01/01/25 10:05
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 15:19
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 15:19
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 14:07
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 15:38

Client Sample ID: BS24-09 4.5'
Lab Sample ID: 885-17862-3
Date Collected: 01/01/25 10:10
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 16:30
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 16:30
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 14:18
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 15:48

Client Sample ID: BS24-10 4.5'
Lab Sample ID: 885-17862-4
Date Collected: 01/01/25 10:15
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 16:54

Lab Chronicle

Client: Vertex Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-10 4.5' Lab Sample ID: 885-17862-4

Date Collected: 01/01/25 10:15 **Matrix: Solid**
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 16:54
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 14:29
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 15:57

Client Sample ID: BS24-34 8.0' Lab Sample ID: 885-17862-5

Date Collected: 01/01/25 12:30 **Matrix: Solid**
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 17:18
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 17:18
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 14:39
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 16:07

Client Sample ID: WS24-34 0-2' Lab Sample ID: 885-17862-6

Date Collected: 01/01/25 13:00 **Matrix: Solid**
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 18:05
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 18:05
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 14:50
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 16:17

Client Sample ID: WS24-35 0-4.5' Lab Sample ID: 885-17862-7

Date Collected: 01/01/25 13:10 **Matrix: Solid**
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 18:29
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 18:29

Lab Chronicle

Client: Vertex Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-35 0-4.5' Lab Sample ID: 885-17862-7

Date Collected: 01/01/25 13:10 **Matrix: Solid**
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 15:01
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 16:47

Client Sample ID: WS24-36 0-4.5' Lab Sample ID: 885-17862-8

Date Collected: 01/01/25 13:20 **Matrix: Solid**
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8015D		1	18822	JP	EET ALB	01/06/25 18:52
Total/NA	Prep	5035			18829	AT	EET ALB	01/06/25 08:30
Total/NA	Analysis	8021B		1	18823	JP	EET ALB	01/06/25 18:52
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 15:11
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 16:57

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17862-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr.
Carlsbad, NM 88220

Phone #: 575.725.5001

email or Fax#: On File

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24 hr

Project Name: Endurance Lariat water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☑ Yes ☐ No 4 ice

# of Coolers: 1

Cooler Temp(including CF): 2.0 - 0.2 = 1.8 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
885-17862 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
01.01.25	1000	soil	BS24-07 4.5'	4 oz	ICE											
	1005		BS24-08 4.5'													
	1010		BS24-09 4.5'													
	1015		BS24-10 4.5'													
	1230		BS24-34 8.0'													
	1300		WS24-34 0-2'													
	1310		WS24-35 0-4.5'													
	1320		WS24-36 0-4.5'													

Date	Time	Relinquished by	Received by	Via	Date	Time
01/03/25	1600				1/3/25	1000
1/3/25	1700			courier	1/5/25	8:05

Remarks: Bill to Solaris (Rob Kirk)
cc: CDixon@vertexresource.com
*ALudvik@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17862-1

Login Number: 17862 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/7/2025 2:08:50 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-17863-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

my EOL

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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Authorized for release by
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Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-17863-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17863-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-17863-1

Job ID: 885-17863-1 Eurofins Albuquerque

Job Narrative
885-17863-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/4/2025 8:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

Client Sample ID: WS24-37 0-4'

Date Collected: 01/02/25 10:00
Date Received: 01/04/25 08:05

Lab Sample ID: 885-17863-1

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.7		mg/Kg		01/06/25 09:33	01/06/25 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*01/06/25 09:33*	*01/06/25 17:00*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/06/25 09:33	01/06/25 17:00	1
Ethylbenzene	ND		0.037		mg/Kg		01/06/25 09:33	01/06/25 17:00	1
Toluene	ND		0.037		mg/Kg		01/06/25 09:33	01/06/25 17:00	1
Xylenes, Total	ND		0.075		mg/Kg		01/06/25 09:33	01/06/25 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*01/06/25 09:33*	*01/06/25 17:00*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		01/06/25 09:33	01/06/25 15:22	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/06/25 09:33	01/06/25 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*01/06/25 09:33*	*01/06/25 15:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		60		mg/Kg		01/06/25 11:55	01/06/25 17:06	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

Client Sample ID: WS24-41 2-4.5'

Date Collected: 01/02/25 10:40
Date Received: 01/04/25 08:05

Lab Sample ID: 885-17863-2

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.2		mg/Kg		01/06/25 09:33	01/06/25 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*35 - 166*	*01/06/25 09:33*	*01/06/25 17:22*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/06/25 09:33	01/06/25 17:22	1
Ethylbenzene	ND		0.032		mg/Kg		01/06/25 09:33	01/06/25 17:22	1
Toluene	ND		0.032		mg/Kg		01/06/25 09:33	01/06/25 17:22	1
Xylenes, Total	ND		0.063		mg/Kg		01/06/25 09:33	01/06/25 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*01/06/25 09:33*	*01/06/25 17:22*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		01/06/25 09:33	01/06/25 15:33	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		01/06/25 09:33	01/06/25 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*	*01/06/25 09:33*	*01/06/25 15:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**83**		60		mg/Kg		01/06/25 11:55	01/06/25 17:16	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

Client Sample ID: WS24-42 2-4'
Date Collected: 01/02/25 10:50
Date Received: 01/04/25 08:05

Lab Sample ID: 885-17863-3
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.2		mg/Kg		01/06/25 09:33	01/06/25 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*35 - 166*	*01/06/25 09:33*	*01/06/25 17:43*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/06/25 09:33	01/06/25 17:43	1
Ethylbenzene	ND		0.032		mg/Kg		01/06/25 09:33	01/06/25 17:43	1
Toluene	ND		0.032		mg/Kg		01/06/25 09:33	01/06/25 17:43	1
Xylenes, Total	ND		0.063		mg/Kg		01/06/25 09:33	01/06/25 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*01/06/25 09:33*	*01/06/25 17:43*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		01/06/25 09:33	01/07/25 10:15	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/06/25 09:33	01/07/25 10:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/06/25 09:33*	*01/07/25 10:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/06/25 11:55	01/06/25 17:26	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

Client Sample ID: BS24-46 4.5'
Date Collected: 01/02/25 11:00
Date Received: 01/04/25 08:05

Lab Sample ID: 885-17863-4
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	6.9		3.2		mg/Kg		01/06/25 09:33	01/06/25 18:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*179*	*S1+*	*35 - 166*	*01/06/25 09:33*	*01/06/25 18:05*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/06/25 09:33	01/06/25 18:05	1
Ethylbenzene	ND		0.032		mg/Kg		01/06/25 09:33	01/06/25 18:05	1
Toluene	ND		0.032		mg/Kg		01/06/25 09:33	01/06/25 18:05	1
Xylenes, Total	ND		0.064		mg/Kg		01/06/25 09:33	01/06/25 18:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*48 - 145*	*01/06/25 09:33*	*01/06/25 18:05*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	230		9.1		mg/Kg		01/06/25 09:33	01/07/25 10:26	1
Motor Oil Range Organics [C28-C40]	110		46		mg/Kg		01/06/25 09:33	01/07/25 10:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*01/06/25 09:33*	*01/07/25 10:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900		60		mg/Kg		01/06/25 11:55	01/06/25 17:36	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

Client Sample ID: BS24-30 5.0'

Date Collected: 01/02/25 13:10
Date Received: 01/04/25 08:05

Lab Sample ID: 885-17863-5

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**39**		3.7		mg/Kg		01/06/25 09:33	01/06/25 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*232*	*S1+*	*35 - 166*	*01/06/25 09:33*	*01/06/25 18:27*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/06/25 09:33	01/06/25 18:27	1
Ethylbenzene	**0.13**		0.037		mg/Kg		01/06/25 09:33	01/06/25 18:27	1
Toluene	ND		0.037		mg/Kg		01/06/25 09:33	01/06/25 18:27	1
Xylenes, Total	**0.88**		0.073		mg/Kg		01/06/25 09:33	01/06/25 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*48 - 145*	*01/06/25 09:33*	*01/06/25 18:27*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**890**		9.8		mg/Kg		01/06/25 09:33	01/06/25 17:21	1
Motor Oil Range Organics [C28-C40]	**390**		49		mg/Kg		01/06/25 09:33	01/06/25 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*01/06/25 09:33*	*01/06/25 17:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**390**		59		mg/Kg		01/06/25 11:55	01/06/25 17:46	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

Client Sample ID: BS24-31 8.0'

Date Collected: 01/02/25 13:40
Date Received: 01/04/25 08:05

Lab Sample ID: 885-17863-6

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		01/06/25 09:33	01/06/25 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*35 - 166*	*01/06/25 09:33*	*01/06/25 19:10*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		01/06/25 09:33	01/06/25 19:10	1
Ethylbenzene	ND		0.047		mg/Kg		01/06/25 09:33	01/06/25 19:10	1
Toluene	ND		0.047		mg/Kg		01/06/25 09:33	01/06/25 19:10	1
Xylenes, Total	ND		0.093		mg/Kg		01/06/25 09:33	01/06/25 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*01/06/25 09:33*	*01/06/25 19:10*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/06/25 09:33	01/07/25 10:36	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/06/25 09:33	01/07/25 10:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*01/06/25 09:33*	*01/07/25 10:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4800**		150		mg/Kg		01/06/25 11:55	01/06/25 19:24	50

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18831/1-A
Matrix: Solid
Analysis Batch: 18889

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18831

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/06/25 09:33	01/06/25 14:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/06/25 09:33*	*01/06/25 14:06*	*1*

Lab Sample ID: LCS 885-18831/2-A
Matrix: Solid
Analysis Batch: 18889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18831

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.5		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*207*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18831/1-A
Matrix: Solid
Analysis Batch: 18890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18831

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/06/25 09:33	01/06/25 14:06	1
Ethylbenzene	ND		0.050		mg/Kg		01/06/25 09:33	01/06/25 14:06	1
Toluene	ND		0.050		mg/Kg		01/06/25 09:33	01/06/25 14:06	1
Xylenes, Total	ND		0.10		mg/Kg		01/06/25 09:33	01/06/25 14:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*01/06/25 09:33*	*01/06/25 14:06*	*1*

Lab Sample ID: LCS 885-18831/3-A
Matrix: Solid
Analysis Batch: 18890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18831

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.942		mg/Kg		94	70 - 130		
Ethylbenzene			1.00	0.959		mg/Kg		96	70 - 130		
m&p-Xylene			2.00	1.90		mg/Kg		95	70 - 130		
o-Xylene			1.00	0.953		mg/Kg		95	70 - 130		
Toluene			1.00	0.951		mg/Kg		95	70 - 130		
Xylenes, Total			3.00	2.85		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18832/1-A
Matrix: Solid
Analysis Batch: 18830

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18832

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/06/25 09:33	01/06/25 11:49	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/06/25 09:33	01/06/25 11:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*01/06/25 09:33*	*01/06/25 11:49*	*1*

Lab Sample ID: LCS 885-18832/2-A
Matrix: Solid
Analysis Batch: 18830

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18832

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	46.7		mg/Kg		93	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-18846/1-A
Matrix: Solid
Analysis Batch: 18852

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18846

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/06/25 11:55	01/06/25 12:50	1

Lab Sample ID: LCS 885-18846/2-A
Matrix: Solid
Analysis Batch: 18852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18846

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	27.9		mg/Kg		93	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

GC VOA

Prep Batch: 18831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17863-1	WS24-37 0-4'	Total/NA	Solid	5035	
885-17863-2	WS24-41 2-4.5'	Total/NA	Solid	5035	
885-17863-3	WS24-42 2-4'	Total/NA	Solid	5035	
885-17863-4	BS24-46 4.5'	Total/NA	Solid	5035	
885-17863-5	BS24-30 5.0'	Total/NA	Solid	5035	
885-17863-6	BS24-31 8.0'	Total/NA	Solid	5035	
MB 885-18831/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-18831/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-18831/3-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 18889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17863-1	WS24-37 0-4'	Total/NA	Solid	8015D	18831
885-17863-2	WS24-41 2-4.5'	Total/NA	Solid	8015D	18831
885-17863-3	WS24-42 2-4'	Total/NA	Solid	8015D	18831
885-17863-4	BS24-46 4.5'	Total/NA	Solid	8015D	18831
885-17863-5	BS24-30 5.0'	Total/NA	Solid	8015D	18831
885-17863-6	BS24-31 8.0'	Total/NA	Solid	8015D	18831
MB 885-18831/1-A	Method Blank	Total/NA	Solid	8015D	18831
LCS 885-18831/2-A	Lab Control Sample	Total/NA	Solid	8015D	18831

Analysis Batch: 18890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17863-1	WS24-37 0-4'	Total/NA	Solid	8021B	18831
885-17863-2	WS24-41 2-4.5'	Total/NA	Solid	8021B	18831
885-17863-3	WS24-42 2-4'	Total/NA	Solid	8021B	18831
885-17863-4	BS24-46 4.5'	Total/NA	Solid	8021B	18831
885-17863-5	BS24-30 5.0'	Total/NA	Solid	8021B	18831
885-17863-6	BS24-31 8.0'	Total/NA	Solid	8021B	18831
MB 885-18831/1-A	Method Blank	Total/NA	Solid	8021B	18831
LCS 885-18831/3-A	Lab Control Sample	Total/NA	Solid	8021B	18831

GC Semi VOA

Analysis Batch: 18830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17863-1	WS24-37 0-4'	Total/NA	Solid	8015D	18832
885-17863-2	WS24-41 2-4.5'	Total/NA	Solid	8015D	18832
885-17863-5	BS24-30 5.0'	Total/NA	Solid	8015D	18832
MB 885-18832/1-A	Method Blank	Total/NA	Solid	8015D	18832
LCS 885-18832/2-A	Lab Control Sample	Total/NA	Solid	8015D	18832

Prep Batch: 18832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17863-1	WS24-37 0-4'	Total/NA	Solid	SHAKE	
885-17863-2	WS24-41 2-4.5'	Total/NA	Solid	SHAKE	
885-17863-3	WS24-42 2-4'	Total/NA	Solid	SHAKE	
885-17863-4	BS24-46 4.5'	Total/NA	Solid	SHAKE	
885-17863-5	BS24-30 5.0'	Total/NA	Solid	SHAKE	
885-17863-6	BS24-31 8.0'	Total/NA	Solid	SHAKE	
MB 885-18832/1-A	Method Blank	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17863-1

GC Semi VOA (Continued)

Prep Batch: 18832 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-18832/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 18895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17863-3	WS24-42 2-4'	Total/NA	Solid	8015D	18832
885-17863-4	BS24-46 4.5'	Total/NA	Solid	8015D	18832
885-17863-6	BS24-31 8.0'	Total/NA	Solid	8015D	18832

HPLC/IC

Prep Batch: 18846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17863-1	WS24-37 0-4'	Total/NA	Solid	300_Prep	
885-17863-2	WS24-41 2-4.5'	Total/NA	Solid	300_Prep	
885-17863-3	WS24-42 2-4'	Total/NA	Solid	300_Prep	
885-17863-4	BS24-46 4.5'	Total/NA	Solid	300_Prep	
885-17863-5	BS24-30 5.0'	Total/NA	Solid	300_Prep	
885-17863-6	BS24-31 8.0'	Total/NA	Solid	300_Prep	
MB 885-18846/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18846/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 18852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17863-1	WS24-37 0-4'	Total/NA	Solid	300.0	18846
885-17863-2	WS24-41 2-4.5'	Total/NA	Solid	300.0	18846
885-17863-3	WS24-42 2-4'	Total/NA	Solid	300.0	18846
885-17863-4	BS24-46 4.5'	Total/NA	Solid	300.0	18846
885-17863-5	BS24-30 5.0'	Total/NA	Solid	300.0	18846
885-17863-6	BS24-31 8.0'	Total/NA	Solid	300.0	18846
MB 885-18846/1-A	Method Blank	Total/NA	Solid	300.0	18846
LCS 885-18846/2-A	Lab Control Sample	Total/NA	Solid	300.0	18846

Lab Chronicle

Client: Vertex
Job ID: 885-17863-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-37 0-4'
Lab Sample ID: 885-17863-1
Date Collected: 01/02/25 10:00
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18889	AT	EET ALB	01/06/25 17:00
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8021B		1	18890	AT	EET ALB	01/06/25 17:00
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 15:22
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 17:06

Client Sample ID: WS24-41 2-4.5'
Lab Sample ID: 885-17863-2
Date Collected: 01/02/25 10:40
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18889	AT	EET ALB	01/06/25 17:22
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8021B		1	18890	AT	EET ALB	01/06/25 17:22
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 15:33
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 17:16

Client Sample ID: WS24-42 2-4'
Lab Sample ID: 885-17863-3
Date Collected: 01/02/25 10:50
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18889	AT	EET ALB	01/06/25 17:43
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8021B		1	18890	AT	EET ALB	01/06/25 17:43
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 10:15
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 17:26

Client Sample ID: BS24-46 4.5'
Lab Sample ID: 885-17863-4
Date Collected: 01/02/25 11:00
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18889	AT	EET ALB	01/06/25 18:05

Lab Chronicle

Client: Vertex
Job ID: 885-17863-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-46 4.5'
Lab Sample ID: 885-17863-4
Date Collected: 01/02/25 11:00
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8021B		1	18890	AT	EET ALB	01/06/25 18:05
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 10:26
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 17:36

Client Sample ID: BS24-30 5.0'
Lab Sample ID: 885-17863-5
Date Collected: 01/02/25 13:10
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18889	AT	EET ALB	01/06/25 18:27
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8021B		1	18890	AT	EET ALB	01/06/25 18:27
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18830	MI	EET ALB	01/06/25 17:21
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		20	18852	JT	EET ALB	01/06/25 17:46

Client Sample ID: BS24-31 8.0'
Lab Sample ID: 885-17863-6
Date Collected: 01/02/25 13:40
Matrix: Solid
Date Received: 01/04/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18889	AT	EET ALB	01/06/25 19:10
Total/NA	Prep	5035			18831	AT	EET ALB	01/06/25 09:33
Total/NA	Analysis	8021B		1	18890	AT	EET ALB	01/06/25 19:10
Total/NA	Prep	SHAKE			18832	MI	EET ALB	01/06/25 09:33
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 10:36
Total/NA	Prep	300_Prep			18846	JT	EET ALB	01/06/25 11:55
Total/NA	Analysis	300.0		50	18852	JT	EET ALB	01/06/25 19:24

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17863-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

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 24 hr

Project Name: Endurance Lariat Water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☑ Yes ☐ No 4oz

# of Coolers: 1

Cooler Temp(including CF): 2.0-0.2=1.8 (°C)

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

885-17863 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
01.02.25	1000	soil	WS24-37 0-4'	4oz	ICE											
	1040		WS24-41 2-4.5'													
	1050		WS24-42 2-4'													
	1100		BS24-46 4.5'													
	1310		BS24-30 5.0'													
	1340		BS24-31 8.0'													

Date	Time	Relinquished by	Received by	Via	Date	Time
01/03/25	1000				1/3/25	1000
1/3/25	1900			courier	1/5/25	8:05

Remarks: Bill to Solaris (Rob Kirk)
cc: cDixon@vertexresource.com
ALudvik@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17863-1

Login Number: 17863 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/10/2025 1:35:57 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-17914-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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1/10/2025 1:35:57 PM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-17914-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-17914-1

Job ID: 885-17914-1 Eurofins Albuquerque

Job Narrative
885-17914-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/7/2025 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.8°C.

Gasoline Range Organics
Method 8015D_GRO: Surrogate recovery for the following samples were outside control limits: BS24-25 5.0' (885-17914-3), BS24-29 5.0' (885-17914-4), BS24-39 6.0' (885-17914-5), BS24-24 5.0' (885-17914-6), BS24-43 6.0' (885-17914-8), BS24-45 6.0' (885-17914-9), BS24-32 8.0' (885-17914-10) and BS24-33 8.0' (885-17914-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: BS24-43 6.0' (885-17914-8), BS24-45 6.0' (885-17914-9), BS24-32 8.0' (885-17914-10) and BS24-33 8.0' (885-17914-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: WS24-38 0-4'
Date Collected: 01/02/25 14:25
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-1
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.5		mg/Kg		01/07/25 13:11	01/07/25 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*01/07/25 13:11*	*01/07/25 17:06*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/07/25 13:11	01/07/25 17:06	1
Ethylbenzene	ND		0.035		mg/Kg		01/07/25 13:11	01/07/25 17:06	1
Toluene	ND		0.035		mg/Kg		01/07/25 13:11	01/07/25 17:06	1
Xylenes, Total	ND		0.070		mg/Kg		01/07/25 13:11	01/07/25 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*01/07/25 13:11*	*01/07/25 17:06*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/07/25 10:00	01/07/25 18:34	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/07/25 10:00	01/07/25 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*	*01/07/25 10:00*	*01/07/25 18:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**200**		60		mg/Kg		01/07/25 10:51	01/07/25 12:26	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: WS24-39 0-4'
Date Collected: 01/02/25 14:30
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-2
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.2		mg/Kg		01/07/25 13:11	01/07/25 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/07/25 13:11*	*01/07/25 18:10*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/07/25 13:11	01/07/25 18:10	1
Ethylbenzene	ND		0.042		mg/Kg		01/07/25 13:11	01/07/25 18:10	1
Toluene	ND		0.042		mg/Kg		01/07/25 13:11	01/07/25 18:10	1
Xylenes, Total	ND		0.084		mg/Kg		01/07/25 13:11	01/07/25 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*01/07/25 13:11*	*01/07/25 18:10*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		01/07/25 10:00	01/07/25 18:44	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/07/25 10:00	01/07/25 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*	*01/07/25 10:00*	*01/07/25 18:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/07/25 10:51	01/07/25 12:56	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-25 5.0'
Date Collected: 01/03/25 11:00
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-3
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**31**		4.9		mg/Kg		01/07/25 13:11	01/07/25 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*192*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 19:15*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		01/07/25 13:11	01/07/25 19:15	1
Ethylbenzene	ND		0.049		mg/Kg		01/07/25 13:11	01/07/25 19:15	1
Toluene	ND		0.049		mg/Kg		01/07/25 13:11	01/07/25 19:15	1
Xylenes, Total	**0.51**		0.097		mg/Kg		01/07/25 13:11	01/07/25 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*48 - 145*	*01/07/25 13:11*	*01/07/25 19:15*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1300**		19		mg/Kg		01/07/25 10:00	01/08/25 10:36	2
Motor Oil Range Organics [C28-C40]	**490**		97		mg/Kg		01/07/25 10:00	01/08/25 10:36	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*01/07/25 10:00*	*01/08/25 10:36*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5900**		300		mg/Kg		01/07/25 10:51	01/08/25 09:53	100

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-29 5.0'

Date Collected: 01/03/25 11:10
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-4

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**37**		4.3		mg/Kg		01/07/25 13:11	01/07/25 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*217*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 19:37*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/07/25 13:11	01/07/25 19:37	1
Ethylbenzene	**0.13**		0.043		mg/Kg		01/07/25 13:11	01/07/25 19:37	1
Toluene	ND		0.043		mg/Kg		01/07/25 13:11	01/07/25 19:37	1
Xylenes, Total	**1.1**		0.086		mg/Kg		01/07/25 13:11	01/07/25 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*48 - 145*	*01/07/25 13:11*	*01/07/25 19:37*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1000**		19		mg/Kg		01/07/25 10:00	01/08/25 15:44	2
Motor Oil Range Organics [C28-C40]	**440**		96		mg/Kg		01/07/25 10:00	01/08/25 15:44	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*119*		*62 - 134*	*01/07/25 10:00*	*01/08/25 15:44*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**550**		60		mg/Kg		01/07/25 10:51	01/07/25 13:16	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-39 6.0'

Date Collected: 01/03/25 11:20
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-5

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**47**		5.1		mg/Kg		01/07/25 13:11	01/07/25 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*238*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 19:59*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.026		mg/Kg		01/07/25 13:11	01/07/25 19:59	1
Ethylbenzene	**0.16**		0.051		mg/Kg		01/07/25 13:11	01/07/25 19:59	1
Toluene	ND		0.051		mg/Kg		01/07/25 13:11	01/07/25 19:59	1
Xylenes, Total	**1.5**		0.10		mg/Kg		01/07/25 13:11	01/07/25 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*48 - 145*	*01/07/25 13:11*	*01/07/25 19:59*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1500**		19		mg/Kg		01/07/25 10:00	01/08/25 15:55	2
Motor Oil Range Organics [C28-C40]	**680**		93		mg/Kg		01/07/25 10:00	01/08/25 15:55	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*123*		*62 - 134*	*01/07/25 10:00*	*01/08/25 15:55*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3700**		150		mg/Kg		01/07/25 10:51	01/08/25 10:06	50

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-24 5.0'

Date Collected: 01/03/25 13:00
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-6

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**23**		4.7		mg/Kg		01/07/25 13:11	01/07/25 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*178*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 20:21*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		01/07/25 13:11	01/07/25 20:21	1
Ethylbenzene	ND		0.047		mg/Kg		01/07/25 13:11	01/07/25 20:21	1
Toluene	ND		0.047		mg/Kg		01/07/25 13:11	01/07/25 20:21	1
Xylenes, Total	**0.21**		0.094		mg/Kg		01/07/25 13:11	01/07/25 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*48 - 145*	*01/07/25 13:11*	*01/07/25 20:21*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**360**		9.6		mg/Kg		01/07/25 10:00	01/07/25 19:26	1
Motor Oil Range Organics [C28-C40]	**180**		48		mg/Kg		01/07/25 10:00	01/07/25 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*01/07/25 10:00*	*01/07/25 19:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5700**		300		mg/Kg		01/07/25 10:51	01/08/25 10:20	100

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-41 8.0'

Date Collected: 01/03/25 14:55
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-7

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		01/07/25 13:11	01/07/25 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*35 - 166*	*01/07/25 13:11*	*01/07/25 20:42*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		01/07/25 13:11	01/07/25 20:42	1
Ethylbenzene	ND		0.047		mg/Kg		01/07/25 13:11	01/07/25 20:42	1
Toluene	ND		0.047		mg/Kg		01/07/25 13:11	01/07/25 20:42	1
Xylenes, Total	ND		0.093		mg/Kg		01/07/25 13:11	01/07/25 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*01/07/25 13:11*	*01/07/25 20:42*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**42**		9.7		mg/Kg		01/07/25 10:00	01/09/25 15:47	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/07/25 10:00	01/09/25 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*01/07/25 10:00*	*01/09/25 15:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6900**		300		mg/Kg		01/07/25 10:51	01/08/25 10:33	100

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-43 6.0'
Date Collected: 01/03/25 11:25
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-8
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**100**		3.7		mg/Kg		01/07/25 13:11	01/07/25 21:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*590*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 21:04*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/07/25 13:11	01/07/25 21:04	1
Ethylbenzene	**0.52**		0.037		mg/Kg		01/07/25 13:11	01/07/25 21:04	1
Toluene	**0.18**		0.037		mg/Kg		01/07/25 13:11	01/07/25 21:04	1
Xylenes, Total	**3.7**		0.074		mg/Kg		01/07/25 13:11	01/07/25 21:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*190*	*S1+*	*48 - 145*	*01/07/25 13:11*	*01/07/25 21:04*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**860**		9.4		mg/Kg		01/07/25 10:00	01/07/25 19:47	1
Motor Oil Range Organics [C28-C40]	**320**		47		mg/Kg		01/07/25 10:00	01/07/25 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*	*01/07/25 10:00*	*01/07/25 19:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**850**		61		mg/Kg		01/07/25 10:51	01/07/25 14:15	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-45 6.0'
Date Collected: 01/03/25 11:30
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-9
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**62**		3.5		mg/Kg		01/07/25 13:11	01/07/25 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*422*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 21:26*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/07/25 13:11	01/07/25 21:26	1
Ethylbenzene	**0.34**		0.035		mg/Kg		01/07/25 13:11	01/07/25 21:26	1
Toluene	**0.10**		0.035		mg/Kg		01/07/25 13:11	01/07/25 21:26	1
Xylenes, Total	**2.4**		0.069		mg/Kg		01/07/25 13:11	01/07/25 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*158*	*S1+*	*48 - 145*	*01/07/25 13:11*	*01/07/25 21:26*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**620**		9.2		mg/Kg		01/07/25 10:00	01/07/25 20:07	1
Motor Oil Range Organics [C28-C40]	**230**		46		mg/Kg		01/07/25 10:00	01/07/25 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*	*01/07/25 10:00*	*01/07/25 20:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**660**		61		mg/Kg		01/07/25 10:51	01/07/25 14:24	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-32 8.0'

Date Collected: 01/03/25 14:45
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-10

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**56**		3.5		mg/Kg		01/07/25 13:11	01/07/25 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*406*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 21:47*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/07/25 13:11	01/07/25 21:47	1
Ethylbenzene	**0.26**		0.035		mg/Kg		01/07/25 13:11	01/07/25 21:47	1
Toluene	**0.051**		0.035		mg/Kg		01/07/25 13:11	01/07/25 21:47	1
Xylenes, Total	**1.9**		0.071		mg/Kg		01/07/25 13:11	01/07/25 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*153*	*S1+*	*48 - 145*	*01/07/25 13:11*	*01/07/25 21:47*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**760**		9.6		mg/Kg		01/07/25 10:00	01/07/25 20:18	1
Motor Oil Range Organics [C28-C40]	**300**		48		mg/Kg		01/07/25 10:00	01/07/25 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/07/25 10:00*	*01/07/25 20:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**900**		60		mg/Kg		01/07/25 10:51	01/07/25 14:34	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-33 8.0'
Date Collected: 01/03/25 14:50
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-11
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**81**		3.5		mg/Kg		01/07/25 13:11	01/07/25 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*535*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 22:31*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/07/25 13:11	01/07/25 22:31	1
Ethylbenzene	**0.37**		0.035		mg/Kg		01/07/25 13:11	01/07/25 22:31	1
Toluene	**0.087**		0.035		mg/Kg		01/07/25 13:11	01/07/25 22:31	1
Xylenes, Total	**2.6**		0.070		mg/Kg		01/07/25 13:11	01/07/25 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*177*	*S1+*	*48 - 145*	*01/07/25 13:11*	*01/07/25 22:31*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**820**		9.1		mg/Kg		01/07/25 10:00	01/07/25 20:28	1
Motor Oil Range Organics [C28-C40]	**320**		46		mg/Kg		01/07/25 10:00	01/07/25 20:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*01/07/25 10:00*	*01/07/25 20:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**820**		60		mg/Kg		01/07/25 10:51	01/07/25 14:44	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-42 8.0'

Date Collected: 01/03/25 15:00
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-12

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.4		mg/Kg		01/07/25 13:11	01/07/25 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*35 - 166*	*01/07/25 13:11*	*01/07/25 22:53*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/07/25 13:11	01/07/25 22:53	1
Ethylbenzene	ND		0.034		mg/Kg		01/07/25 13:11	01/07/25 22:53	1
Toluene	ND		0.034		mg/Kg		01/07/25 13:11	01/07/25 22:53	1
Xylenes, Total	ND		0.068		mg/Kg		01/07/25 13:11	01/07/25 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*01/07/25 13:11*	*01/07/25 22:53*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		01/07/25 10:00	01/09/25 15:58	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		01/07/25 10:00	01/09/25 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*01/07/25 10:00*	*01/09/25 15:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/07/25 10:51	01/07/25 14:54	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18943/1-A
Matrix: Solid
Analysis Batch: 18949

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18943

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/07/25 13:11	01/07/25 16:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*01/07/25 13:11*	*01/07/25 16:44*	*1*

Lab Sample ID: LCS 885-18943/2-A
Matrix: Solid
Analysis Batch: 18949

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18943

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.4		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*202*		*35 - 166*

Lab Sample ID: 885-17914-1 MS
Matrix: Solid
Analysis Batch: 18949

Client Sample ID: WS24-38 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		17.6	16.5		mg/Kg		94	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*194*		*35 - 166*

Lab Sample ID: 885-17914-1 MSD
Matrix: Solid
Analysis Batch: 18949

Client Sample ID: WS24-38 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		17.6	15.9		mg/Kg		91	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*193*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18943/1-A
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18943

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/07/25 13:11	01/07/25 16:44	1
Ethylbenzene	ND		0.050		mg/Kg		01/07/25 13:11	01/07/25 16:44	1
Toluene	ND		0.050		mg/Kg		01/07/25 13:11	01/07/25 16:44	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-18943/1-A
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18943

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/07/25 13:11	01/07/25 16:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*48 - 145*	*01/07/25 13:11*	*01/07/25 16:44*	*1*

Lab Sample ID: LCS 885-18943/3-A
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18943

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.882		mg/Kg		88	70 - 130		
Ethylbenzene			1.00	0.913		mg/Kg		91	70 - 130		
m&p-Xylene			2.00	1.79		mg/Kg		89	70 - 130		
o-Xylene			1.00	0.913		mg/Kg		91	70 - 130		
Toluene			1.00	0.908		mg/Kg		91	70 - 130		
Xylenes, Total			3.00	2.70		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*

Lab Sample ID: 885-17914-2 MS
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: WS24-39 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.838	0.718		mg/Kg		86	70 - 130		
Ethylbenzene	ND		0.838	0.737		mg/Kg		88	70 - 130		
m&p-Xylene	ND		1.68	1.47		mg/Kg		88	70 - 130		
o-Xylene	ND		0.838	0.724		mg/Kg		86	70 - 130		
Toluene	ND		0.838	0.729		mg/Kg		87	70 - 130		
Xylenes, Total	ND		2.51	2.19		mg/Kg		87	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*

Lab Sample ID: 885-17914-2 MSD
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: WS24-39 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.838	0.707		mg/Kg		84	70 - 130	2	20
Ethylbenzene	ND		0.838	0.739		mg/Kg		88	70 - 130	0	20
m&p-Xylene	ND		1.68	1.44		mg/Kg		86	70 - 130	2	20
o-Xylene	ND		0.838	0.728		mg/Kg		87	70 - 130	1	20
Toluene	ND		0.838	0.716		mg/Kg		85	70 - 130	2	20
Xylenes, Total	ND		2.51	2.17		mg/Kg		86	70 - 130	1	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-17914-2 MSD
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: WS24-39 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18833/1-A
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18833

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/06/25 09:36	01/07/25 10:05	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/06/25 09:36	01/07/25 10:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/06/25 09:36*	*01/07/25 10:05*	*1*

Lab Sample ID: MB 885-18898/1-A
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18898

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/07/25 10:00	01/07/25 12:12	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/07/25 10:00	01/07/25 12:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*01/07/25 10:00*	*01/07/25 12:12*	*1*

Lab Sample ID: LCS 885-18898/2-A
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18898

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	48.3		mg/Kg		97	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*

Lab Sample ID: 885-17914-12 MS
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: BS24-42 8.0'
Prep Type: Total/NA
Prep Batch: 18898

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		46.8	48.3		mg/Kg		103	44 - 136		

Surrogate	MS %Recovery	MS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 885-17914-12 MSD
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: BS24-42 8.0'
Prep Type: Total/NA
Prep Batch: 18898

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		45.9	45.6		mg/Kg		99	44 - 136	6	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-18910/1-A
Matrix: Solid
Analysis Batch: 18933

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18910

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5		mg/Kg		01/07/25 10:51	01/07/25 12:00	1

Lab Sample ID: LCS 885-18910/2-A
Matrix: Solid
Analysis Batch: 18933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18910

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			15.0	14.4		mg/Kg		96	90 - 110		

Lab Sample ID: 885-17914-1 MSD
Matrix: Solid
Analysis Batch: 18933

Client Sample ID: WS24-38 0-4'
Prep Type: Total/NA
Prep Batch: 18910

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	200		29.9	218	4	mg/Kg		57	50 - 150	1	20

Lab Sample ID: MRL 885-18969/3
Matrix: Solid
Analysis Batch: 18969

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.527		mg/L		105	50 - 150		

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

GC VOA

Prep Batch: 18943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	5035	
885-17914-2	WS24-39 0-4'	Total/NA	Solid	5035	
885-17914-3	BS24-25 5.0'	Total/NA	Solid	5035	
885-17914-4	BS24-29 5.0'	Total/NA	Solid	5035	
885-17914-5	BS24-39 6.0'	Total/NA	Solid	5035	
885-17914-6	BS24-24 5.0'	Total/NA	Solid	5035	
885-17914-7	BS24-41 8.0'	Total/NA	Solid	5035	
885-17914-8	BS24-43 6.0'	Total/NA	Solid	5035	
885-17914-9	BS24-45 6.0'	Total/NA	Solid	5035	
885-17914-10	BS24-32 8.0'	Total/NA	Solid	5035	
885-17914-11	BS24-33 8.0'	Total/NA	Solid	5035	
885-17914-12	BS24-42 8.0'	Total/NA	Solid	5035	
MB 885-18943/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-18943/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-18943/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-17914-1 MS	WS24-38 0-4'	Total/NA	Solid	5035	
885-17914-1 MSD	WS24-38 0-4'	Total/NA	Solid	5035	
885-17914-2 MS	WS24-39 0-4'	Total/NA	Solid	5035	
885-17914-2 MSD	WS24-39 0-4'	Total/NA	Solid	5035	

Analysis Batch: 18949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	8015D	18943
885-17914-2	WS24-39 0-4'	Total/NA	Solid	8015D	18943
885-17914-3	BS24-25 5.0'	Total/NA	Solid	8015D	18943
885-17914-4	BS24-29 5.0'	Total/NA	Solid	8015D	18943
885-17914-5	BS24-39 6.0'	Total/NA	Solid	8015D	18943
885-17914-6	BS24-24 5.0'	Total/NA	Solid	8015D	18943
885-17914-7	BS24-41 8.0'	Total/NA	Solid	8015D	18943
885-17914-8	BS24-43 6.0'	Total/NA	Solid	8015D	18943
885-17914-9	BS24-45 6.0'	Total/NA	Solid	8015D	18943
885-17914-10	BS24-32 8.0'	Total/NA	Solid	8015D	18943
885-17914-11	BS24-33 8.0'	Total/NA	Solid	8015D	18943
885-17914-12	BS24-42 8.0'	Total/NA	Solid	8015D	18943
MB 885-18943/1-A	Method Blank	Total/NA	Solid	8015D	18943
LCS 885-18943/2-A	Lab Control Sample	Total/NA	Solid	8015D	18943
885-17914-1 MS	WS24-38 0-4'	Total/NA	Solid	8015D	18943
885-17914-1 MSD	WS24-38 0-4'	Total/NA	Solid	8015D	18943

Analysis Batch: 18950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	8021B	18943
885-17914-2	WS24-39 0-4'	Total/NA	Solid	8021B	18943
885-17914-3	BS24-25 5.0'	Total/NA	Solid	8021B	18943
885-17914-4	BS24-29 5.0'	Total/NA	Solid	8021B	18943
885-17914-5	BS24-39 6.0'	Total/NA	Solid	8021B	18943
885-17914-6	BS24-24 5.0'	Total/NA	Solid	8021B	18943
885-17914-7	BS24-41 8.0'	Total/NA	Solid	8021B	18943
885-17914-8	BS24-43 6.0'	Total/NA	Solid	8021B	18943
885-17914-9	BS24-45 6.0'	Total/NA	Solid	8021B	18943
885-17914-10	BS24-32 8.0'	Total/NA	Solid	8021B	18943

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

GC VOA (Continued)

Analysis Batch: 18950 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-11	BS24-33 8.0'	Total/NA	Solid	8021B	18943
885-17914-12	BS24-42 8.0'	Total/NA	Solid	8021B	18943
MB 885-18943/1-A	Method Blank	Total/NA	Solid	8021B	18943
LCS 885-18943/3-A	Lab Control Sample	Total/NA	Solid	8021B	18943
885-17914-2 MS	WS24-39 0-4'	Total/NA	Solid	8021B	18943
885-17914-2 MSD	WS24-39 0-4'	Total/NA	Solid	8021B	18943

GC Semi VOA

Prep Batch: 18833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-18833/1-A	Method Blank	Total/NA	Solid	SHAKE	

Analysis Batch: 18895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	8015D	18898
885-17914-2	WS24-39 0-4'	Total/NA	Solid	8015D	18898
885-17914-6	BS24-24 5.0'	Total/NA	Solid	8015D	18898
885-17914-8	BS24-43 6.0'	Total/NA	Solid	8015D	18898
885-17914-9	BS24-45 6.0'	Total/NA	Solid	8015D	18898
885-17914-10	BS24-32 8.0'	Total/NA	Solid	8015D	18898
885-17914-11	BS24-33 8.0'	Total/NA	Solid	8015D	18898
MB 885-18833/1-A	Method Blank	Total/NA	Solid	8015D	18833
MB 885-18898/1-A	Method Blank	Total/NA	Solid	8015D	18898
LCS 885-18898/2-A	Lab Control Sample	Total/NA	Solid	8015D	18898
885-17914-12 MS	BS24-42 8.0'	Total/NA	Solid	8015D	18898
885-17914-12 MSD	BS24-42 8.0'	Total/NA	Solid	8015D	18898

Prep Batch: 18898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	SHAKE	
885-17914-2	WS24-39 0-4'	Total/NA	Solid	SHAKE	
885-17914-3	BS24-25 5.0'	Total/NA	Solid	SHAKE	
885-17914-4	BS24-29 5.0'	Total/NA	Solid	SHAKE	
885-17914-5	BS24-39 6.0'	Total/NA	Solid	SHAKE	
885-17914-6	BS24-24 5.0'	Total/NA	Solid	SHAKE	
885-17914-7	BS24-41 8.0'	Total/NA	Solid	SHAKE	
885-17914-8	BS24-43 6.0'	Total/NA	Solid	SHAKE	
885-17914-9	BS24-45 6.0'	Total/NA	Solid	SHAKE	
885-17914-10	BS24-32 8.0'	Total/NA	Solid	SHAKE	
885-17914-11	BS24-33 8.0'	Total/NA	Solid	SHAKE	
885-17914-12	BS24-42 8.0'	Total/NA	Solid	SHAKE	
MB 885-18898/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18898/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-17914-12 MS	BS24-42 8.0'	Total/NA	Solid	SHAKE	
885-17914-12 MSD	BS24-42 8.0'	Total/NA	Solid	SHAKE	

Analysis Batch: 18977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-3	BS24-25 5.0'	Total/NA	Solid	8015D	18898
885-17914-4	BS24-29 5.0'	Total/NA	Solid	8015D	18898

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

GC Semi VOA (Continued)

Analysis Batch: 18977 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-5	BS24-39 6.0'	Total/NA	Solid	8015D	18898

Analysis Batch: 19040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-7	BS24-41 8.0'	Total/NA	Solid	8015D	18898
885-17914-12	BS24-42 8.0'	Total/NA	Solid	8015D	18898

HPLC/IC

Prep Batch: 18910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	300_Prep	
885-17914-2	WS24-39 0-4'	Total/NA	Solid	300_Prep	
885-17914-3	BS24-25 5.0'	Total/NA	Solid	300_Prep	
885-17914-4	BS24-29 5.0'	Total/NA	Solid	300_Prep	
885-17914-5	BS24-39 6.0'	Total/NA	Solid	300_Prep	
885-17914-6	BS24-24 5.0'	Total/NA	Solid	300_Prep	
885-17914-7	BS24-41 8.0'	Total/NA	Solid	300_Prep	
885-17914-8	BS24-43 6.0'	Total/NA	Solid	300_Prep	
885-17914-9	BS24-45 6.0'	Total/NA	Solid	300_Prep	
885-17914-10	BS24-32 8.0'	Total/NA	Solid	300_Prep	
885-17914-11	BS24-33 8.0'	Total/NA	Solid	300_Prep	
885-17914-12	BS24-42 8.0'	Total/NA	Solid	300_Prep	
MB 885-18910/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18910/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
885-17914-1 MSD	WS24-38 0-4'	Total/NA	Solid	300_Prep	

Analysis Batch: 18933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	300.0	18910
885-17914-2	WS24-39 0-4'	Total/NA	Solid	300.0	18910
885-17914-4	BS24-29 5.0'	Total/NA	Solid	300.0	18910
885-17914-8	BS24-43 6.0'	Total/NA	Solid	300.0	18910
885-17914-9	BS24-45 6.0'	Total/NA	Solid	300.0	18910
885-17914-10	BS24-32 8.0'	Total/NA	Solid	300.0	18910
885-17914-11	BS24-33 8.0'	Total/NA	Solid	300.0	18910
885-17914-12	BS24-42 8.0'	Total/NA	Solid	300.0	18910
MB 885-18910/1-A	Method Blank	Total/NA	Solid	300.0	18910
LCS 885-18910/2-A	Lab Control Sample	Total/NA	Solid	300.0	18910
885-17914-1 MSD	WS24-38 0-4'	Total/NA	Solid	300.0	18910

Analysis Batch: 18969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-3	BS24-25 5.0'	Total/NA	Solid	300.0	18910
885-17914-5	BS24-39 6.0'	Total/NA	Solid	300.0	18910
885-17914-6	BS24-24 5.0'	Total/NA	Solid	300.0	18910
885-17914-7	BS24-41 8.0'	Total/NA	Solid	300.0	18910
MRL 885-18969/3	Lab Control Sample	Total/NA	Solid	300.0	

Lab Chronicle

Client: Vertex
Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-38 0-4'
Lab Sample ID: 885-17914-1
Date Collected: 01/02/25 14:25
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 17:06
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 17:06
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 18:34
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 12:26

Client Sample ID: WS24-39 0-4'
Lab Sample ID: 885-17914-2
Date Collected: 01/02/25 14:30
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 18:10
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 18:10
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 18:44
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 12:56

Client Sample ID: BS24-25 5.0'
Lab Sample ID: 885-17914-3
Date Collected: 01/03/25 11:00
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 19:15
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 19:15
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		2	18977	MI	EET ALB	01/08/25 10:36
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		100	18969	ES	EET ALB	01/08/25 09:53

Client Sample ID: BS24-29 5.0'
Lab Sample ID: 885-17914-4
Date Collected: 01/03/25 11:10
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 19:37

Lab Chronicle

Client: Vertex
Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-29 5.0'
Lab Sample ID: 885-17914-4
Date Collected: 01/03/25 11:10
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 19:37
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		2	18977	MI	EET ALB	01/08/25 15:44
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 13:16

Client Sample ID: BS24-39 6.0'
Lab Sample ID: 885-17914-5
Date Collected: 01/03/25 11:20
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 19:59
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 19:59
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		2	18977	MI	EET ALB	01/08/25 15:55
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		50	18969	ES	EET ALB	01/08/25 10:06

Client Sample ID: BS24-24 5.0'
Lab Sample ID: 885-17914-6
Date Collected: 01/03/25 13:00
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 20:21
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 20:21
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 19:26
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		100	18969	ES	EET ALB	01/08/25 10:20

Client Sample ID: BS24-41 8.0'
Lab Sample ID: 885-17914-7
Date Collected: 01/03/25 14:55
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 20:42
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 20:42

Lab Chronicle

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-41 8.0'
Date Collected: 01/03/25 14:55
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 15:47
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		100	18969	ES	EET ALB	01/08/25 10:33

Client Sample ID: BS24-43 6.0'
Date Collected: 01/03/25 11:25
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 21:04
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 21:04
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 19:47
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:15

Client Sample ID: BS24-45 6.0'
Date Collected: 01/03/25 11:30
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 21:26
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 21:26
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 20:07
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:24

Client Sample ID: BS24-32 8.0'
Date Collected: 01/03/25 14:45
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 21:47
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 21:47
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 20:18

Lab Chronicle

Client: Vertex
Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-32 8.0'
Lab Sample ID: 885-17914-10
Date Collected: 01/03/25 14:45
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:34

Client Sample ID: BS24-33 8.0'
Lab Sample ID: 885-17914-11
Date Collected: 01/03/25 14:50
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 22:31
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 22:31
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 20:28
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:44

Client Sample ID: BS24-42 8.0'
Lab Sample ID: 885-17914-12
Date Collected: 01/03/25 15:00
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 22:53
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 22:53
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 15:58
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:54

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr
Carlsbad, NM 88220

Phone #: 575.725.5001

email or Fax#: On File

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24 hr

Project Name: Endurance Lariat Water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☒ Yes ☐ No 4oz

# of Coolers: 1

Cooler Temp(including CF): 4.6+0.2=4.8 (°C)

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

885-17914 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
01.02.25	1425	soil	WS24-38 0-4'	4 oz	ICE											
↓	1430	↓	WS24-39 0-4'													
01.03.25	1100	soil	BS24-25 5.0'													
	1110		BS24-29 5.0'													
	1120		BS24-39 6.0'													
	1300		BS24-24 5.0'													
	1455		BS24-41 8.0'													
	1125		BS24-43 6.0'													
	1130		BS24-45 6.0'													
	1445		BS24-32 8.0'													
	1450		BS24-33 8.0'													
↓	1500	↓	BS24-42 8.0'													

Date	Time	Relinquished by	Received by	Via	Date	Time
01.06.25	945					
1/6/25	1900			courier	1/7/25	8:00

Remarks: Bill to Solaris (Rob Kirk)
cc: cDixon@Vertexresource.com
ALudvik@Vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17914-1

Login Number: 17914 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/10/2025 1:35:57 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-17914-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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Authorized for release by
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Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-17914-1

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Definitions/Glossary

Client: Vertex Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-17914-1

Job ID: 885-17914-1 Eurofins Albuquerque

Job Narrative
885-17914-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/7/2025 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.8°C.

Gasoline Range Organics
Method 8015D_GRO: Surrogate recovery for the following samples were outside control limits: BS24-25 5.0' (885-17914-3), BS24-29 5.0' (885-17914-4), BS24-39 6.0' (885-17914-5), BS24-24 5.0' (885-17914-6), BS24-43 6.0' (885-17914-8), BS24-45 6.0' (885-17914-9), BS24-32 8.0' (885-17914-10) and BS24-33 8.0' (885-17914-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: BS24-43 6.0' (885-17914-8), BS24-45 6.0' (885-17914-9), BS24-32 8.0' (885-17914-10) and BS24-33 8.0' (885-17914-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: WS24-38 0-4'

Date Collected: 01/02/25 14:25
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-1

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.5		mg/Kg		01/07/25 13:11	01/07/25 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*01/07/25 13:11*	*01/07/25 17:06*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/07/25 13:11	01/07/25 17:06	1
Ethylbenzene	ND		0.035		mg/Kg		01/07/25 13:11	01/07/25 17:06	1
Toluene	ND		0.035		mg/Kg		01/07/25 13:11	01/07/25 17:06	1
Xylenes, Total	ND		0.070		mg/Kg		01/07/25 13:11	01/07/25 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*01/07/25 13:11*	*01/07/25 17:06*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/07/25 10:00	01/07/25 18:34	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/07/25 10:00	01/07/25 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*	*01/07/25 10:00*	*01/07/25 18:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**200**		60		mg/Kg		01/07/25 10:51	01/07/25 12:26	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: WS24-39 0-4'

Date Collected: 01/02/25 14:30
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-2

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.2		mg/Kg		01/07/25 13:11	01/07/25 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/07/25 13:11*	*01/07/25 18:10*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/07/25 13:11	01/07/25 18:10	1
Ethylbenzene	ND		0.042		mg/Kg		01/07/25 13:11	01/07/25 18:10	1
Toluene	ND		0.042		mg/Kg		01/07/25 13:11	01/07/25 18:10	1
Xylenes, Total	ND		0.084		mg/Kg		01/07/25 13:11	01/07/25 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*01/07/25 13:11*	*01/07/25 18:10*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		01/07/25 10:00	01/07/25 18:44	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/07/25 10:00	01/07/25 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*	*01/07/25 10:00*	*01/07/25 18:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/07/25 10:51	01/07/25 12:56	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-25 5.0'
Date Collected: 01/03/25 11:00
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-3
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**31**		4.9		mg/Kg		01/07/25 13:11	01/07/25 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*192*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 19:15*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		01/07/25 13:11	01/07/25 19:15	1
Ethylbenzene	ND		0.049		mg/Kg		01/07/25 13:11	01/07/25 19:15	1
Toluene	ND		0.049		mg/Kg		01/07/25 13:11	01/07/25 19:15	1
Xylenes, Total	**0.51**		0.097		mg/Kg		01/07/25 13:11	01/07/25 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*48 - 145*	*01/07/25 13:11*	*01/07/25 19:15*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1300**		19		mg/Kg		01/07/25 10:00	01/08/25 10:36	2
Motor Oil Range Organics [C28-C40]	**490**		97		mg/Kg		01/07/25 10:00	01/08/25 10:36	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*01/07/25 10:00*	*01/08/25 10:36*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5900**		300		mg/Kg		01/07/25 10:51	01/08/25 09:53	100

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-29 5.0'
Date Collected: 01/03/25 11:10
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-4
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**37**		4.3		mg/Kg		01/07/25 13:11	01/07/25 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*217*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 19:37*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/07/25 13:11	01/07/25 19:37	1
Ethylbenzene	**0.13**		0.043		mg/Kg		01/07/25 13:11	01/07/25 19:37	1
Toluene	ND		0.043		mg/Kg		01/07/25 13:11	01/07/25 19:37	1
Xylenes, Total	**1.1**		0.086		mg/Kg		01/07/25 13:11	01/07/25 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*48 - 145*	*01/07/25 13:11*	*01/07/25 19:37*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1000**		19		mg/Kg		01/07/25 10:00	01/08/25 15:44	2
Motor Oil Range Organics [C28-C40]	**440**		96		mg/Kg		01/07/25 10:00	01/08/25 15:44	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*119*		*62 - 134*	*01/07/25 10:00*	*01/08/25 15:44*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**550**		60		mg/Kg		01/07/25 10:51	01/07/25 13:16	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-39 6.0'
Date Collected: 01/03/25 11:20
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-5
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**47**		5.1		mg/Kg		01/07/25 13:11	01/07/25 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*238*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 19:59*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.026		mg/Kg		01/07/25 13:11	01/07/25 19:59	1
Ethylbenzene	**0.16**		0.051		mg/Kg		01/07/25 13:11	01/07/25 19:59	1
Toluene	ND		0.051		mg/Kg		01/07/25 13:11	01/07/25 19:59	1
Xylenes, Total	**1.5**		0.10		mg/Kg		01/07/25 13:11	01/07/25 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*48 - 145*	*01/07/25 13:11*	*01/07/25 19:59*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1500**		19		mg/Kg		01/07/25 10:00	01/08/25 15:55	2
Motor Oil Range Organics [C28-C40]	**680**		93		mg/Kg		01/07/25 10:00	01/08/25 15:55	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*123*		*62 - 134*	*01/07/25 10:00*	*01/08/25 15:55*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3700**		150		mg/Kg		01/07/25 10:51	01/08/25 10:06	50

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-24 5.0'
Date Collected: 01/03/25 13:00
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-6
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**23**		4.7		mg/Kg		01/07/25 13:11	01/07/25 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*178*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 20:21*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		01/07/25 13:11	01/07/25 20:21	1
Ethylbenzene	ND		0.047		mg/Kg		01/07/25 13:11	01/07/25 20:21	1
Toluene	ND		0.047		mg/Kg		01/07/25 13:11	01/07/25 20:21	1
Xylenes, Total	**0.21**		0.094		mg/Kg		01/07/25 13:11	01/07/25 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*48 - 145*	*01/07/25 13:11*	*01/07/25 20:21*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**360**		9.6		mg/Kg		01/07/25 10:00	01/07/25 19:26	1
Motor Oil Range Organics [C28-C40]	**180**		48		mg/Kg		01/07/25 10:00	01/07/25 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*01/07/25 10:00*	*01/07/25 19:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5700**		300		mg/Kg		01/07/25 10:51	01/08/25 10:20	100

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-41 8.0'
Date Collected: 01/03/25 14:55
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-7
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		01/07/25 13:11	01/07/25 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*35 - 166*	*01/07/25 13:11*	*01/07/25 20:42*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		01/07/25 13:11	01/07/25 20:42	1
Ethylbenzene	ND		0.047		mg/Kg		01/07/25 13:11	01/07/25 20:42	1
Toluene	ND		0.047		mg/Kg		01/07/25 13:11	01/07/25 20:42	1
Xylenes, Total	ND		0.093		mg/Kg		01/07/25 13:11	01/07/25 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*01/07/25 13:11*	*01/07/25 20:42*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**42**		9.7		mg/Kg		01/07/25 10:00	01/09/25 15:47	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/07/25 10:00	01/09/25 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*01/07/25 10:00*	*01/09/25 15:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6900**		300		mg/Kg		01/07/25 10:51	01/08/25 10:33	100

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-43 6.0'
Date Collected: 01/03/25 11:25
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-8
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**100**		3.7		mg/Kg		01/07/25 13:11	01/07/25 21:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*590*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 21:04*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/07/25 13:11	01/07/25 21:04	1
Ethylbenzene	**0.52**		0.037		mg/Kg		01/07/25 13:11	01/07/25 21:04	1
Toluene	**0.18**		0.037		mg/Kg		01/07/25 13:11	01/07/25 21:04	1
Xylenes, Total	**3.7**		0.074		mg/Kg		01/07/25 13:11	01/07/25 21:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*190*	*S1+*	*48 - 145*	*01/07/25 13:11*	*01/07/25 21:04*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**860**		9.4		mg/Kg		01/07/25 10:00	01/07/25 19:47	1
Motor Oil Range Organics [C28-C40]	**320**		47		mg/Kg		01/07/25 10:00	01/07/25 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*	*01/07/25 10:00*	*01/07/25 19:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**850**		61		mg/Kg		01/07/25 10:51	01/07/25 14:15	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-45 6.0'
Date Collected: 01/03/25 11:30
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-9
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**62**		3.5		mg/Kg		01/07/25 13:11	01/07/25 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*422*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 21:26*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/07/25 13:11	01/07/25 21:26	1
Ethylbenzene	**0.34**		0.035		mg/Kg		01/07/25 13:11	01/07/25 21:26	1
Toluene	**0.10**		0.035		mg/Kg		01/07/25 13:11	01/07/25 21:26	1
Xylenes, Total	**2.4**		0.069		mg/Kg		01/07/25 13:11	01/07/25 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*158*	*S1+*	*48 - 145*	*01/07/25 13:11*	*01/07/25 21:26*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**620**		9.2		mg/Kg		01/07/25 10:00	01/07/25 20:07	1
Motor Oil Range Organics [C28-C40]	**230**		46		mg/Kg		01/07/25 10:00	01/07/25 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*	*01/07/25 10:00*	*01/07/25 20:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**660**		61		mg/Kg		01/07/25 10:51	01/07/25 14:24	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-32 8.0'

Date Collected: 01/03/25 14:45
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-10

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**56**		3.5		mg/Kg		01/07/25 13:11	01/07/25 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*406*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 21:47*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/07/25 13:11	01/07/25 21:47	1
Ethylbenzene	**0.26**		0.035		mg/Kg		01/07/25 13:11	01/07/25 21:47	1
Toluene	**0.051**		0.035		mg/Kg		01/07/25 13:11	01/07/25 21:47	1
Xylenes, Total	**1.9**		0.071		mg/Kg		01/07/25 13:11	01/07/25 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*153*	*S1+*	*48 - 145*	*01/07/25 13:11*	*01/07/25 21:47*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**760**		9.6		mg/Kg		01/07/25 10:00	01/07/25 20:18	1
Motor Oil Range Organics [C28-C40]	**300**		48		mg/Kg		01/07/25 10:00	01/07/25 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/07/25 10:00*	*01/07/25 20:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**900**		60		mg/Kg		01/07/25 10:51	01/07/25 14:34	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-33 8.0'
Date Collected: 01/03/25 14:50
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-11
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**81**		3.5		mg/Kg		01/07/25 13:11	01/07/25 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*535*	*S1+*	*35 - 166*	*01/07/25 13:11*	*01/07/25 22:31*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/07/25 13:11	01/07/25 22:31	1
Ethylbenzene	**0.37**		0.035		mg/Kg		01/07/25 13:11	01/07/25 22:31	1
Toluene	**0.087**		0.035		mg/Kg		01/07/25 13:11	01/07/25 22:31	1
Xylenes, Total	**2.6**		0.070		mg/Kg		01/07/25 13:11	01/07/25 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*177*	*S1+*	*48 - 145*	*01/07/25 13:11*	*01/07/25 22:31*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**820**		9.1		mg/Kg		01/07/25 10:00	01/07/25 20:28	1
Motor Oil Range Organics [C28-C40]	**320**		46		mg/Kg		01/07/25 10:00	01/07/25 20:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*01/07/25 10:00*	*01/07/25 20:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**820**		60		mg/Kg		01/07/25 10:51	01/07/25 14:44	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Client Sample ID: BS24-42 8.0'
Date Collected: 01/03/25 15:00
Date Received: 01/07/25 08:00

Lab Sample ID: 885-17914-12
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.4		mg/Kg		01/07/25 13:11	01/07/25 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*35 - 166*	*01/07/25 13:11*	*01/07/25 22:53*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/07/25 13:11	01/07/25 22:53	1
Ethylbenzene	ND		0.034		mg/Kg		01/07/25 13:11	01/07/25 22:53	1
Toluene	ND		0.034		mg/Kg		01/07/25 13:11	01/07/25 22:53	1
Xylenes, Total	ND		0.068		mg/Kg		01/07/25 13:11	01/07/25 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*01/07/25 13:11*	*01/07/25 22:53*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		01/07/25 10:00	01/09/25 15:58	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		01/07/25 10:00	01/09/25 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*01/07/25 10:00*	*01/09/25 15:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/07/25 10:51	01/07/25 14:54	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18943/1-A
Matrix: Solid
Analysis Batch: 18949

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18943

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/07/25 13:11	01/07/25 16:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*01/07/25 13:11*	*01/07/25 16:44*	*1*

Lab Sample ID: LCS 885-18943/2-A
Matrix: Solid
Analysis Batch: 18949

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18943

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.4		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*202*		*35 - 166*

Lab Sample ID: 885-17914-1 MS
Matrix: Solid
Analysis Batch: 18949

Client Sample ID: WS24-38 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		17.6	16.5		mg/Kg		94	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*194*		*35 - 166*

Lab Sample ID: 885-17914-1 MSD
Matrix: Solid
Analysis Batch: 18949

Client Sample ID: WS24-38 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		17.6	15.9		mg/Kg		91	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*193*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18943/1-A
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18943

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/07/25 13:11	01/07/25 16:44	1
Ethylbenzene	ND		0.050		mg/Kg		01/07/25 13:11	01/07/25 16:44	1
Toluene	ND		0.050		mg/Kg		01/07/25 13:11	01/07/25 16:44	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-18943/1-A
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18943

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/07/25 13:11	01/07/25 16:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*48 - 145*	*01/07/25 13:11*	*01/07/25 16:44*	*1*

Lab Sample ID: LCS 885-18943/3-A
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18943

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.882		mg/Kg		88	70 - 130		
Ethylbenzene			1.00	0.913		mg/Kg		91	70 - 130		
m&p-Xylene			2.00	1.79		mg/Kg		89	70 - 130		
o-Xylene			1.00	0.913		mg/Kg		91	70 - 130		
Toluene			1.00	0.908		mg/Kg		91	70 - 130		
Xylenes, Total			3.00	2.70		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*

Lab Sample ID: 885-17914-2 MS
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: WS24-39 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.838	0.718		mg/Kg		86	70 - 130		
Ethylbenzene	ND		0.838	0.737		mg/Kg		88	70 - 130		
m&p-Xylene	ND		1.68	1.47		mg/Kg		88	70 - 130		
o-Xylene	ND		0.838	0.724		mg/Kg		86	70 - 130		
Toluene	ND		0.838	0.729		mg/Kg		87	70 - 130		
Xylenes, Total	ND		2.51	2.19		mg/Kg		87	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*

Lab Sample ID: 885-17914-2 MSD
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: WS24-39 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.838	0.707		mg/Kg		84	70 - 130	2	20
Ethylbenzene	ND		0.838	0.739		mg/Kg		88	70 - 130	0	20
m&p-Xylene	ND		1.68	1.44		mg/Kg		86	70 - 130	2	20
o-Xylene	ND		0.838	0.728		mg/Kg		87	70 - 130	1	20
Toluene	ND		0.838	0.716		mg/Kg		85	70 - 130	2	20
Xylenes, Total	ND		2.51	2.17		mg/Kg		86	70 - 130	1	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-17914-2 MSD
Matrix: Solid
Analysis Batch: 18950

Client Sample ID: WS24-39 0-4'
Prep Type: Total/NA
Prep Batch: 18943

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-18833/1-A
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18833

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/06/25 09:36	01/07/25 10:05	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/06/25 09:36	01/07/25 10:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/06/25 09:36*	*01/07/25 10:05*	*1*

Lab Sample ID: MB 885-18898/1-A
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18898

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/07/25 10:00	01/07/25 12:12	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/07/25 10:00	01/07/25 12:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*01/07/25 10:00*	*01/07/25 12:12*	*1*

Lab Sample ID: LCS 885-18898/2-A
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18898

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	48.3		mg/Kg		97	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*

Lab Sample ID: 885-17914-12 MS
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: BS24-42 8.0'
Prep Type: Total/NA
Prep Batch: 18898

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		46.8	48.3		mg/Kg		103	44 - 136		

Surrogate	MS %Recovery	MS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 885-17914-12 MSD
Matrix: Solid
Analysis Batch: 18895

Client Sample ID: BS24-42 8.0'
Prep Type: Total/NA
Prep Batch: 18898

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		45.9	45.6		mg/Kg		99	44 - 136	6	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-18910/1-A
Matrix: Solid
Analysis Batch: 18933

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18910

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5		mg/Kg		01/07/25 10:51	01/07/25 12:00	1

Lab Sample ID: LCS 885-18910/2-A
Matrix: Solid
Analysis Batch: 18933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18910

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			15.0	14.4		mg/Kg		96	90 - 110		

Lab Sample ID: 885-17914-1 MSD
Matrix: Solid
Analysis Batch: 18933

Client Sample ID: WS24-38 0-4'
Prep Type: Total/NA
Prep Batch: 18910

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	200		29.9	218	4	mg/Kg		57	50 - 150	1	20

Lab Sample ID: MRL 885-18969/3
Matrix: Solid
Analysis Batch: 18969

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.527		mg/L		105	50 - 150		

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

GC VOA

Prep Batch: 18943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	5035	
885-17914-2	WS24-39 0-4'	Total/NA	Solid	5035	
885-17914-3	BS24-25 5.0'	Total/NA	Solid	5035	
885-17914-4	BS24-29 5.0'	Total/NA	Solid	5035	
885-17914-5	BS24-39 6.0'	Total/NA	Solid	5035	
885-17914-6	BS24-24 5.0'	Total/NA	Solid	5035	
885-17914-7	BS24-41 8.0'	Total/NA	Solid	5035	
885-17914-8	BS24-43 6.0'	Total/NA	Solid	5035	
885-17914-9	BS24-45 6.0'	Total/NA	Solid	5035	
885-17914-10	BS24-32 8.0'	Total/NA	Solid	5035	
885-17914-11	BS24-33 8.0'	Total/NA	Solid	5035	
885-17914-12	BS24-42 8.0'	Total/NA	Solid	5035	
MB 885-18943/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-18943/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-18943/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-17914-1 MS	WS24-38 0-4'	Total/NA	Solid	5035	
885-17914-1 MSD	WS24-38 0-4'	Total/NA	Solid	5035	
885-17914-2 MS	WS24-39 0-4'	Total/NA	Solid	5035	
885-17914-2 MSD	WS24-39 0-4'	Total/NA	Solid	5035	

Analysis Batch: 18949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	8015D	18943
885-17914-2	WS24-39 0-4'	Total/NA	Solid	8015D	18943
885-17914-3	BS24-25 5.0'	Total/NA	Solid	8015D	18943
885-17914-4	BS24-29 5.0'	Total/NA	Solid	8015D	18943
885-17914-5	BS24-39 6.0'	Total/NA	Solid	8015D	18943
885-17914-6	BS24-24 5.0'	Total/NA	Solid	8015D	18943
885-17914-7	BS24-41 8.0'	Total/NA	Solid	8015D	18943
885-17914-8	BS24-43 6.0'	Total/NA	Solid	8015D	18943
885-17914-9	BS24-45 6.0'	Total/NA	Solid	8015D	18943
885-17914-10	BS24-32 8.0'	Total/NA	Solid	8015D	18943
885-17914-11	BS24-33 8.0'	Total/NA	Solid	8015D	18943
885-17914-12	BS24-42 8.0'	Total/NA	Solid	8015D	18943
MB 885-18943/1-A	Method Blank	Total/NA	Solid	8015D	18943
LCS 885-18943/2-A	Lab Control Sample	Total/NA	Solid	8015D	18943
885-17914-1 MS	WS24-38 0-4'	Total/NA	Solid	8015D	18943
885-17914-1 MSD	WS24-38 0-4'	Total/NA	Solid	8015D	18943

Analysis Batch: 18950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	8021B	18943
885-17914-2	WS24-39 0-4'	Total/NA	Solid	8021B	18943
885-17914-3	BS24-25 5.0'	Total/NA	Solid	8021B	18943
885-17914-4	BS24-29 5.0'	Total/NA	Solid	8021B	18943
885-17914-5	BS24-39 6.0'	Total/NA	Solid	8021B	18943
885-17914-6	BS24-24 5.0'	Total/NA	Solid	8021B	18943
885-17914-7	BS24-41 8.0'	Total/NA	Solid	8021B	18943
885-17914-8	BS24-43 6.0'	Total/NA	Solid	8021B	18943
885-17914-9	BS24-45 6.0'	Total/NA	Solid	8021B	18943
885-17914-10	BS24-32 8.0'	Total/NA	Solid	8021B	18943

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

GC VOA (Continued)

Analysis Batch: 18950 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-11	BS24-33 8.0'	Total/NA	Solid	8021B	18943
885-17914-12	BS24-42 8.0'	Total/NA	Solid	8021B	18943
MB 885-18943/1-A	Method Blank	Total/NA	Solid	8021B	18943
LCS 885-18943/3-A	Lab Control Sample	Total/NA	Solid	8021B	18943
885-17914-2 MS	WS24-39 0-4'	Total/NA	Solid	8021B	18943
885-17914-2 MSD	WS24-39 0-4'	Total/NA	Solid	8021B	18943

GC Semi VOA

Prep Batch: 18833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-18833/1-A	Method Blank	Total/NA	Solid	SHAKE	

Analysis Batch: 18895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	8015D	18898
885-17914-2	WS24-39 0-4'	Total/NA	Solid	8015D	18898
885-17914-6	BS24-24 5.0'	Total/NA	Solid	8015D	18898
885-17914-8	BS24-43 6.0'	Total/NA	Solid	8015D	18898
885-17914-9	BS24-45 6.0'	Total/NA	Solid	8015D	18898
885-17914-10	BS24-32 8.0'	Total/NA	Solid	8015D	18898
885-17914-11	BS24-33 8.0'	Total/NA	Solid	8015D	18898
MB 885-18833/1-A	Method Blank	Total/NA	Solid	8015D	18833
MB 885-18898/1-A	Method Blank	Total/NA	Solid	8015D	18898
LCS 885-18898/2-A	Lab Control Sample	Total/NA	Solid	8015D	18898
885-17914-12 MS	BS24-42 8.0'	Total/NA	Solid	8015D	18898
885-17914-12 MSD	BS24-42 8.0'	Total/NA	Solid	8015D	18898

Prep Batch: 18898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	SHAKE	
885-17914-2	WS24-39 0-4'	Total/NA	Solid	SHAKE	
885-17914-3	BS24-25 5.0'	Total/NA	Solid	SHAKE	
885-17914-4	BS24-29 5.0'	Total/NA	Solid	SHAKE	
885-17914-5	BS24-39 6.0'	Total/NA	Solid	SHAKE	
885-17914-6	BS24-24 5.0'	Total/NA	Solid	SHAKE	
885-17914-7	BS24-41 8.0'	Total/NA	Solid	SHAKE	
885-17914-8	BS24-43 6.0'	Total/NA	Solid	SHAKE	
885-17914-9	BS24-45 6.0'	Total/NA	Solid	SHAKE	
885-17914-10	BS24-32 8.0'	Total/NA	Solid	SHAKE	
885-17914-11	BS24-33 8.0'	Total/NA	Solid	SHAKE	
885-17914-12	BS24-42 8.0'	Total/NA	Solid	SHAKE	
MB 885-18898/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-18898/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-17914-12 MS	BS24-42 8.0'	Total/NA	Solid	SHAKE	
885-17914-12 MSD	BS24-42 8.0'	Total/NA	Solid	SHAKE	

Analysis Batch: 18977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-3	BS24-25 5.0'	Total/NA	Solid	8015D	18898
885-17914-4	BS24-29 5.0'	Total/NA	Solid	8015D	18898

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-17914-1

GC Semi VOA (Continued)

Analysis Batch: 18977 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-5	BS24-39 6.0'	Total/NA	Solid	8015D	18898

Analysis Batch: 19040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-7	BS24-41 8.0'	Total/NA	Solid	8015D	18898
885-17914-12	BS24-42 8.0'	Total/NA	Solid	8015D	18898

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Prep Batch: 18910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	300_Prep	
885-17914-2	WS24-39 0-4'	Total/NA	Solid	300_Prep	
885-17914-3	BS24-25 5.0'	Total/NA	Solid	300_Prep	
885-17914-4	BS24-29 5.0'	Total/NA	Solid	300_Prep	
885-17914-5	BS24-39 6.0'	Total/NA	Solid	300_Prep	
885-17914-6	BS24-24 5.0'	Total/NA	Solid	300_Prep	
885-17914-7	BS24-41 8.0'	Total/NA	Solid	300_Prep	
885-17914-8	BS24-43 6.0'	Total/NA	Solid	300_Prep	
885-17914-9	BS24-45 6.0'	Total/NA	Solid	300_Prep	
885-17914-10	BS24-32 8.0'	Total/NA	Solid	300_Prep	
885-17914-11	BS24-33 8.0'	Total/NA	Solid	300_Prep	
885-17914-12	BS24-42 8.0'	Total/NA	Solid	300_Prep	
MB 885-18910/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18910/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
885-17914-1 MSD	WS24-38 0-4'	Total/NA	Solid	300_Prep	

Analysis Batch: 18933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-1	WS24-38 0-4'	Total/NA	Solid	300.0	18910
885-17914-2	WS24-39 0-4'	Total/NA	Solid	300.0	18910
885-17914-4	BS24-29 5.0'	Total/NA	Solid	300.0	18910
885-17914-8	BS24-43 6.0'	Total/NA	Solid	300.0	18910
885-17914-9	BS24-45 6.0'	Total/NA	Solid	300.0	18910
885-17914-10	BS24-32 8.0'	Total/NA	Solid	300.0	18910
885-17914-11	BS24-33 8.0'	Total/NA	Solid	300.0	18910
885-17914-12	BS24-42 8.0'	Total/NA	Solid	300.0	18910
MB 885-18910/1-A	Method Blank	Total/NA	Solid	300.0	18910
LCS 885-18910/2-A	Lab Control Sample	Total/NA	Solid	300.0	18910
885-17914-1 MSD	WS24-38 0-4'	Total/NA	Solid	300.0	18910

Analysis Batch: 18969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17914-3	BS24-25 5.0'	Total/NA	Solid	300.0	18910
885-17914-5	BS24-39 6.0'	Total/NA	Solid	300.0	18910
885-17914-6	BS24-24 5.0'	Total/NA	Solid	300.0	18910
885-17914-7	BS24-41 8.0'	Total/NA	Solid	300.0	18910
MRL 885-18969/3	Lab Control Sample	Total/NA	Solid	300.0	

Lab Chronicle

Client: Vertex
Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-38 0-4'
Lab Sample ID: 885-17914-1
Date Collected: 01/02/25 14:25
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 17:06
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 17:06
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 18:34
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 12:26

Client Sample ID: WS24-39 0-4'
Lab Sample ID: 885-17914-2
Date Collected: 01/02/25 14:30
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 18:10
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 18:10
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 18:44
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 12:56

Client Sample ID: BS24-25 5.0'
Lab Sample ID: 885-17914-3
Date Collected: 01/03/25 11:00
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 19:15
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 19:15
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		2	18977	MI	EET ALB	01/08/25 10:36
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		100	18969	ES	EET ALB	01/08/25 09:53

Client Sample ID: BS24-29 5.0'
Lab Sample ID: 885-17914-4
Date Collected: 01/03/25 11:10
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 19:37

Lab Chronicle

Client: Vertex
Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-29 5.0'
Lab Sample ID: 885-17914-4
Date Collected: 01/03/25 11:10
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 19:37
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		2	18977	MI	EET ALB	01/08/25 15:44
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 13:16

Client Sample ID: BS24-39 6.0'
Lab Sample ID: 885-17914-5
Date Collected: 01/03/25 11:20
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 19:59
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 19:59
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		2	18977	MI	EET ALB	01/08/25 15:55
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		50	18969	ES	EET ALB	01/08/25 10:06

Client Sample ID: BS24-24 5.0'
Lab Sample ID: 885-17914-6
Date Collected: 01/03/25 13:00
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 20:21
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 20:21
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 19:26
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		100	18969	ES	EET ALB	01/08/25 10:20

Client Sample ID: BS24-41 8.0'
Lab Sample ID: 885-17914-7
Date Collected: 01/03/25 14:55
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 20:42
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 20:42

Lab Chronicle

Client: Vertex
Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-41 8.0'
Lab Sample ID: 885-17914-7
Date Collected: 01/03/25 14:55
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 15:47
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		100	18969	ES	EET ALB	01/08/25 10:33

Client Sample ID: BS24-43 6.0'
Lab Sample ID: 885-17914-8
Date Collected: 01/03/25 11:25
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 21:04
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 21:04
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 19:47
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:15

Client Sample ID: BS24-45 6.0'
Lab Sample ID: 885-17914-9
Date Collected: 01/03/25 11:30
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 21:26
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 21:26
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 20:07
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:24

Client Sample ID: BS24-32 8.0'
Lab Sample ID: 885-17914-10
Date Collected: 01/03/25 14:45
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 21:47
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 21:47
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 20:18

Lab Chronicle

Client: Vertex
Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-32 8.0'
Lab Sample ID: 885-17914-10
Date Collected: 01/03/25 14:45
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:34

Client Sample ID: BS24-33 8.0'
Lab Sample ID: 885-17914-11
Date Collected: 01/03/25 14:50
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 22:31
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 22:31
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	18895	MI	EET ALB	01/07/25 20:28
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:44

Client Sample ID: BS24-42 8.0'
Lab Sample ID: 885-17914-12
Date Collected: 01/03/25 15:00
Matrix: Solid
Date Received: 01/07/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8015D		1	18949	AT	EET ALB	01/07/25 22:53
Total/NA	Prep	5035			18943	AT	EET ALB	01/07/25 13:11
Total/NA	Analysis	8021B		1	18950	AT	EET ALB	01/07/25 22:53
Total/NA	Prep	SHAKE			18898	MI	EET ALB	01/07/25 10:00
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 15:58
Total/NA	Prep	300_Prep			18910	JT	EET ALB	01/07/25 10:51
Total/NA	Analysis	300.0		20	18933	JT	EET ALB	01/07/25 14:54

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-17914-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr
Carlsbad, NM 88220

Phone #: 575.725.5001

email or Fax#: On File

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24 hr

Project Name: Endurance Lariat Water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☒ Yes ☐ No 4oz

# of Coolers: 1

Cooler Temp(including CF): 4.6+0.2=4.8 (°C)

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

885-17914 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
01.02.25	1425	soil	WS24-38 0-4'	4 oz	ICE											
↓	1430	↓	WS24-39 0-4'													
01.03.25	1100	soil	BS24-25 5.0'													
	1110		BS24-29 5.0'													
	1120		BS24-39 6.0'													
	1300		BS24-24 5.0'													
	1455		BS24-41 8.0'													
	1125		BS24-43 6.0'													
	1130		BS24-45 6.0'													
	1445		BS24-32 8.0'													
	1450		BS24-33 8.0'													
↓	1500	↓	BS24-42 8.0'													

Date	Time	Relinquished by	Received by	Via	Date	Time
01.06.25	945					
1/6/25	1900			courier	1/7/25	8:00

Remarks: Bill to Solaris (Rob Kirk)
cc: cDixon@Vertexresource.com
ALudvik@Vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-17914-1

Login Number: 17914 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/14/2025 9:53:48 AM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-18119-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/14/2025 9:53:48 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-18119-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-18119-1

Job ID: 885-18119-1 Eurofins Albuquerque

Job Narrative
885-18119-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/9/2025 8:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C.

Gasoline Range Organics
Method 8015D_GRO: Surrogate recovery for the following samples were outside control limits: BS24-44 6.0' (885-18119-1), WS24-45 5-9' (885-18119-3) and WS24-47 7-8' (885-18119-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following samples were outside control limits: (885-18119-A-1-B MS) and (885-18119-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-44 6.0'
Lab Sample ID: 885-18119-1
Date Collected: 01/06/25 10:00
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**60**		3.8		mg/Kg		01/09/25 08:11	01/09/25 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*262*	*S1+*	*35 - 166*	*01/09/25 08:11*	*01/09/25 11:41*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/09/25 08:11	01/09/25 11:41	1
Ethylbenzene	**0.12**		0.038		mg/Kg		01/09/25 08:11	01/09/25 11:41	1
Toluene	ND		0.038		mg/Kg		01/09/25 08:11	01/09/25 11:41	1
Xylenes, Total	**0.17**		0.076		mg/Kg		01/09/25 08:11	01/09/25 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*48 - 145*	*01/09/25 08:11*	*01/09/25 11:41*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**800**		9.1		mg/Kg		01/09/25 09:48	01/09/25 16:19	1
Motor Oil Range Organics [C28-C40]	**300**		45		mg/Kg		01/09/25 09:48	01/09/25 16:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*01/09/25 09:48*	*01/09/25 16:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6800**		300		mg/Kg		01/09/25 10:28	01/13/25 13:39	100

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-44 0-5'
Lab Sample ID: 885-18119-2
Date Collected: 01/06/25 10:10
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.1		mg/Kg		01/09/25 08:11	01/09/25 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*35 - 166*	*01/09/25 08:11*	*01/09/25 12:05*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/09/25 08:11	01/09/25 12:05	1
Ethylbenzene	ND		0.031		mg/Kg		01/09/25 08:11	01/09/25 12:05	1
Toluene	ND		0.031		mg/Kg		01/09/25 08:11	01/09/25 12:05	1
Xylenes, Total	ND		0.062		mg/Kg		01/09/25 08:11	01/09/25 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*01/09/25 08:11*	*01/09/25 12:05*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		01/09/25 09:48	01/09/25 16:30	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		01/09/25 09:48	01/09/25 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*01/09/25 09:48*	*01/09/25 16:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/09/25 10:28	01/10/25 13:57	20

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-45 5-9'
Lab Sample ID: 885-18119-3
Date Collected: 01/06/25 10:20
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	52		4.8		mg/Kg		01/09/25 09:57	01/09/25 12:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*248*	*S1+*	*35 - 166*	*01/09/25 09:57*	*01/09/25 12:29*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		01/09/25 09:57	01/09/25 12:29	1
Ethylbenzene	0.21		0.048		mg/Kg		01/09/25 09:57	01/09/25 12:29	1
Toluene	ND		0.048		mg/Kg		01/09/25 09:57	01/09/25 12:29	1
Xylenes, Total	1.7		0.095		mg/Kg		01/09/25 09:57	01/09/25 12:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*48 - 145*	*01/09/25 09:57*	*01/09/25 12:29*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	940		19		mg/Kg		01/09/25 09:48	01/10/25 10:13	2
Motor Oil Range Organics [C28-C40]	340		95		mg/Kg		01/09/25 09:48	01/10/25 10:13	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*01/09/25 09:48*	*01/10/25 10:13*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400		150		mg/Kg		01/09/25 10:28	01/13/25 13:50	50

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-47 7-8'
Lab Sample ID: 885-18119-4
Date Collected: 01/06/25 13:20
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**32**		4.1		mg/Kg		01/09/25 09:57	01/09/25 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*244*	*S1+*	*35 - 166*	*01/09/25 09:57*	*01/09/25 14:51*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		01/09/25 09:57	01/09/25 14:51	1
Ethylbenzene	**0.22**		0.041		mg/Kg		01/09/25 09:57	01/09/25 14:51	1
Toluene	ND		0.041		mg/Kg		01/09/25 09:57	01/09/25 14:51	1
Xylenes, Total	**1.3**		0.081		mg/Kg		01/09/25 09:57	01/09/25 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*48 - 145*	*01/09/25 09:57*	*01/09/25 14:51*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**790**		9.9		mg/Kg		01/09/25 09:48	01/10/25 14:04	1
Motor Oil Range Organics [C28-C40]	**310**		49		mg/Kg		01/09/25 09:48	01/10/25 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*01/09/25 09:48*	*01/10/25 14:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/10/25 11:16	01/10/25 14:56	20

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-48 0-4'
Lab Sample ID: 885-18119-5
Date Collected: 01/06/25 13:30
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.3		mg/Kg		01/09/25 09:57	01/09/25 13:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*35 - 166*	*01/09/25 09:57*	*01/09/25 13:16*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/09/25 09:57	01/09/25 13:16	1
Ethylbenzene	ND		0.033		mg/Kg		01/09/25 09:57	01/09/25 13:16	1
Toluene	ND		0.033		mg/Kg		01/09/25 09:57	01/09/25 13:16	1
Xylenes, Total	ND		0.067		mg/Kg		01/09/25 09:57	01/09/25 13:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*	*01/09/25 09:57*	*01/09/25 13:16*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/09/25 09:48	01/10/25 14:15	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/09/25 09:48	01/10/25 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/09/25 09:48*	*01/10/25 14:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/10/25 11:16	01/10/25 15:06	20

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-21 6.0'
Lab Sample ID: 885-18119-6
Date Collected: 01/07/25 10:25
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		01/09/25 09:57	01/09/25 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*35 - 166*	*01/09/25 09:57*	*01/09/25 13:40*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		01/09/25 09:57	01/09/25 13:40	1
Ethylbenzene	ND		0.049		mg/Kg		01/09/25 09:57	01/09/25 13:40	1
Toluene	ND		0.049		mg/Kg		01/09/25 09:57	01/09/25 13:40	1
Xylenes, Total	ND		0.098		mg/Kg		01/09/25 09:57	01/09/25 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*48 - 145*	*01/09/25 09:57*	*01/09/25 13:40*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		01/09/25 09:48	01/09/25 17:12	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/09/25 09:48	01/09/25 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*01/09/25 09:48*	*01/09/25 17:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5300**		150		mg/Kg		01/10/25 11:16	01/13/25 14:00	50

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-37 8.5'
Lab Sample ID: 885-18119-7
Date Collected: 01/07/25 14:35
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.9		mg/Kg		01/09/25 09:57	01/09/25 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*35 - 166*	*01/09/25 09:57*	*01/09/25 14:03*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/09/25 09:57	01/09/25 14:03	1
Ethylbenzene	ND		0.039		mg/Kg		01/09/25 09:57	01/09/25 14:03	1
Toluene	ND		0.039		mg/Kg		01/09/25 09:57	01/09/25 14:03	1
Xylenes, Total	ND		0.077		mg/Kg		01/09/25 09:57	01/09/25 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*	*01/09/25 09:57*	*01/09/25 14:03*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/09/25 09:48	01/09/25 17:23	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/09/25 09:48	01/09/25 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*01/09/25 09:48*	*01/09/25 17:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/10/25 11:16	01/10/25 15:25	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18119-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19039/1-A
Matrix: Solid
Analysis Batch: 19072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19039

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/09/25 08:11	01/09/25 10:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*35 - 166*	*01/09/25 08:11*	*01/09/25 10:07*	*1*

Lab Sample ID: LCS 885-19039/2-A
Matrix: Solid
Analysis Batch: 19072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19039

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	24.8		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*207*		*35 - 166*

Lab Sample ID: 885-18119-1 MS
Matrix: Solid
Analysis Batch: 19072

Client Sample ID: BS24-44 6.0'
Prep Type: Total/NA
Prep Batch: 19039

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	60		18.9	78.9		mg/Kg		99	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*425*	*S1+*	*35 - 166*

Lab Sample ID: 885-18119-1 MSD
Matrix: Solid
Analysis Batch: 19072

Client Sample ID: BS24-44 6.0'
Prep Type: Total/NA
Prep Batch: 19039

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	60		18.9	76.0		mg/Kg		84	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*436*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19039/1-A
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19039

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/09/25 08:11	01/09/25 10:07	1
Ethylbenzene	ND		0.050		mg/Kg		01/09/25 08:11	01/09/25 10:07	1
Toluene	ND		0.050		mg/Kg		01/09/25 08:11	01/09/25 10:07	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18119-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-19039/1-A
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19039

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/09/25 08:11	01/09/25 10:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*01/09/25 08:11*	*01/09/25 10:07*	*1*

Lab Sample ID: LCS 885-19039/3-A
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19039

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.07		mg/Kg		107	70 - 130		
Ethylbenzene			1.00	1.11		mg/Kg		111	70 - 130		
m&p-Xylene			2.00	2.16		mg/Kg		108	70 - 130		
o-Xylene			1.00	1.07		mg/Kg		107	70 - 130		
Toluene			1.00	1.11		mg/Kg		111	70 - 130		
Xylenes, Total			3.00	3.23		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*

Lab Sample ID: 885-18119-2 MS
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: WS24-44 0-5'
Prep Type: Total/NA
Prep Batch: 19039

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.623	0.655		mg/Kg		105	70 - 130		
Ethylbenzene	ND		0.623	0.680		mg/Kg		109	70 - 130		
m&p-Xylene	ND		1.25	1.35		mg/Kg		107	70 - 130		
o-Xylene	ND		0.623	0.662		mg/Kg		105	70 - 130		
Toluene	ND		0.623	0.682		mg/Kg		110	70 - 130		
Xylenes, Total	ND		1.87	2.01		mg/Kg		106	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*48 - 145*

Lab Sample ID: 885-18119-2 MSD
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: WS24-44 0-5'
Prep Type: Total/NA
Prep Batch: 19039

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.623	0.644		mg/Kg		103	70 - 130	2	20
Ethylbenzene	ND		0.623	0.680		mg/Kg		109	70 - 130	0	20
m&p-Xylene	ND		1.25	1.37		mg/Kg		108	70 - 130	1	20
o-Xylene	ND		0.623	0.662		mg/Kg		105	70 - 130	0	20
Toluene	ND		0.623	0.668		mg/Kg		107	70 - 130	2	20
Xylenes, Total	ND		1.87	2.03		mg/Kg		107	70 - 130	1	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18119-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-18119-2 MSD
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: WS24-44 0-5'
Prep Type: Total/NA
Prep Batch: 19039

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*108*		*48 - 145*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-19048/1-A
Matrix: Solid
Analysis Batch: 19040

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19048

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/09/25 09:08	01/09/25 11:24	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/09/25 09:08	01/09/25 11:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*85*		*62 - 134*	*01/09/25 09:08*	*01/09/25 11:24*	*1*

Lab Sample ID: LCS 885-19048/2-A
Matrix: Solid
Analysis Batch: 19040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19048

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	40.6		mg/Kg		81	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*83*		*62 - 134*

Lab Sample ID: 885-18119-7 MS
Matrix: Solid
Analysis Batch: 19040

Client Sample ID: BS24-37 8.5'
Prep Type: Total/NA
Prep Batch: 19048

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		48.0	46.7		mg/Kg		97	44 - 136		

Surrogate	MS %Recovery	MS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*

Lab Sample ID: 885-18119-7 MSD
Matrix: Solid
Analysis Batch: 19040

Client Sample ID: BS24-37 8.5'
Prep Type: Total/NA
Prep Batch: 19048

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		45.7	44.4		mg/Kg		97	44 - 136	5	32

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18119-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-19062/1-A
Matrix: Solid
Analysis Batch: 19109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19062

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/09/25 10:28	01/10/25 08:28	1

Lab Sample ID: LCS 885-19062/2-A
Matrix: Solid
Analysis Batch: 19109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19062

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	27.6		mg/Kg		92	90 - 110		

Lab Sample ID: MB 885-19136/1-A
Matrix: Solid
Analysis Batch: 19109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19136

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/10/25 11:16	01/10/25 14:17	1

Lab Sample ID: LCS 885-19136/2-A
Matrix: Solid
Analysis Batch: 19109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19136

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.4		mg/Kg		95	90 - 110		

Lab Sample ID: MRL 885-19195/3
Matrix: Solid
Analysis Batch: 19195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.525		mg/L		105	50 - 150		

QC Association Summary

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

GC VOA

Prep Batch: 19039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	5035	
885-18119-2	WS24-44 0-5'	Total/NA	Solid	5035	
885-18119-3	WS24-45 5-9'	Total/NA	Solid	5035	
885-18119-4	WS24-47 7-8'	Total/NA	Solid	5035	
885-18119-5	WS24-48 0-4'	Total/NA	Solid	5035	
885-18119-6	BS24-21 6.0'	Total/NA	Solid	5035	
885-18119-7	BS24-37 8.5'	Total/NA	Solid	5035	
MB 885-19039/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19039/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19039/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-18119-1 MS	BS24-44 6.0'	Total/NA	Solid	5035	
885-18119-1 MSD	BS24-44 6.0'	Total/NA	Solid	5035	
885-18119-2 MS	WS24-44 0-5'	Total/NA	Solid	5035	
885-18119-2 MSD	WS24-44 0-5'	Total/NA	Solid	5035	

Analysis Batch: 19071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	8021B	19039
885-18119-2	WS24-44 0-5'	Total/NA	Solid	8021B	19039
885-18119-3	WS24-45 5-9'	Total/NA	Solid	8021B	19039
885-18119-4	WS24-47 7-8'	Total/NA	Solid	8021B	19039
885-18119-5	WS24-48 0-4'	Total/NA	Solid	8021B	19039
885-18119-6	BS24-21 6.0'	Total/NA	Solid	8021B	19039
885-18119-7	BS24-37 8.5'	Total/NA	Solid	8021B	19039
MB 885-19039/1-A	Method Blank	Total/NA	Solid	8021B	19039
LCS 885-19039/3-A	Lab Control Sample	Total/NA	Solid	8021B	19039
885-18119-2 MS	WS24-44 0-5'	Total/NA	Solid	8021B	19039
885-18119-2 MSD	WS24-44 0-5'	Total/NA	Solid	8021B	19039

Analysis Batch: 19072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	8015D	19039
885-18119-2	WS24-44 0-5'	Total/NA	Solid	8015D	19039
885-18119-3	WS24-45 5-9'	Total/NA	Solid	8015D	19039
885-18119-4	WS24-47 7-8'	Total/NA	Solid	8015D	19039
885-18119-5	WS24-48 0-4'	Total/NA	Solid	8015D	19039
885-18119-6	BS24-21 6.0'	Total/NA	Solid	8015D	19039
885-18119-7	BS24-37 8.5'	Total/NA	Solid	8015D	19039
MB 885-19039/1-A	Method Blank	Total/NA	Solid	8015D	19039
LCS 885-19039/2-A	Lab Control Sample	Total/NA	Solid	8015D	19039
885-18119-1 MS	BS24-44 6.0'	Total/NA	Solid	8015D	19039
885-18119-1 MSD	BS24-44 6.0'	Total/NA	Solid	8015D	19039

GC Semi VOA

Analysis Batch: 19040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	8015D	19048
885-18119-2	WS24-44 0-5'	Total/NA	Solid	8015D	19048
885-18119-6	BS24-21 6.0'	Total/NA	Solid	8015D	19048
885-18119-7	BS24-37 8.5'	Total/NA	Solid	8015D	19048

QC Association Summary

Client: Vertex Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

GC Semi VOA (Continued)

Analysis Batch: 19040 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-19048/1-A	Method Blank	Total/NA	Solid	8015D	19048
LCS 885-19048/2-A	Lab Control Sample	Total/NA	Solid	8015D	19048
885-18119-7 MS	BS24-37 8.5'	Total/NA	Solid	8015D	19048
885-18119-7 MSD	BS24-37 8.5'	Total/NA	Solid	8015D	19048

Prep Batch: 19048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	SHAKE	
885-18119-2	WS24-44 0-5'	Total/NA	Solid	SHAKE	
885-18119-3	WS24-45 5-9'	Total/NA	Solid	SHAKE	
885-18119-4	WS24-47 7-8'	Total/NA	Solid	SHAKE	
885-18119-5	WS24-48 0-4'	Total/NA	Solid	SHAKE	
885-18119-6	BS24-21 6.0'	Total/NA	Solid	SHAKE	
885-18119-7	BS24-37 8.5'	Total/NA	Solid	SHAKE	
MB 885-19048/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-19048/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-18119-7 MS	BS24-37 8.5'	Total/NA	Solid	SHAKE	
885-18119-7 MSD	BS24-37 8.5'	Total/NA	Solid	SHAKE	

Analysis Batch: 19115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-3	WS24-45 5-9'	Total/NA	Solid	8015D	19048
885-18119-4	WS24-47 7-8'	Total/NA	Solid	8015D	19048
885-18119-5	WS24-48 0-4'	Total/NA	Solid	8015D	19048

HPLC/IC

Prep Batch: 19062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	300_Prep	
885-18119-2	WS24-44 0-5'	Total/NA	Solid	300_Prep	
885-18119-3	WS24-45 5-9'	Total/NA	Solid	300_Prep	
MB 885-19062/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19062/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-2	WS24-44 0-5'	Total/NA	Solid	300.0	19062
885-18119-4	WS24-47 7-8'	Total/NA	Solid	300.0	19136
885-18119-5	WS24-48 0-4'	Total/NA	Solid	300.0	19136
885-18119-7	BS24-37 8.5'	Total/NA	Solid	300.0	19136
MB 885-19062/1-A	Method Blank	Total/NA	Solid	300.0	19062
MB 885-19136/1-A	Method Blank	Total/NA	Solid	300.0	19136
LCS 885-19062/2-A	Lab Control Sample	Total/NA	Solid	300.0	19062
LCS 885-19136/2-A	Lab Control Sample	Total/NA	Solid	300.0	19136

Prep Batch: 19136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-4	WS24-47 7-8'	Total/NA	Solid	300_Prep	
885-18119-5	WS24-48 0-4'	Total/NA	Solid	300_Prep	
885-18119-6	BS24-21 6.0'	Total/NA	Solid	300_Prep	

QC Association Summary

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

HPLC/IC (Continued)

Prep Batch: 19136 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-7	BS24-37 8.5'	Total/NA	Solid	300_Prep	
MB 885-19136/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19136/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	300.0	19062
885-18119-3	WS24-45 5-9'	Total/NA	Solid	300.0	19062
885-18119-6	BS24-21 6.0'	Total/NA	Solid	300.0	19136
MRL 885-19195/3	Lab Control Sample	Total/NA	Solid	300.0	

Lab Chronicle

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-44 6.0'
Lab Sample ID: 885-18119-1
Date Collected: 01/06/25 10:00
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 08:11
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 11:41
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 08:11
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 11:41
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 16:19
Total/NA	Prep	300_Prep			19062	ES	EET ALB	01/09/25 10:28
Total/NA	Analysis	300.0		100	19195	JT	EET ALB	01/13/25 13:39

Client Sample ID: WS24-44 0-5'
Lab Sample ID: 885-18119-2
Date Collected: 01/06/25 10:10
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 08:11
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 12:05
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 08:11
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 12:05
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 16:30
Total/NA	Prep	300_Prep			19062	ES	EET ALB	01/09/25 10:28
Total/NA	Analysis	300.0		20	19109	RC	EET ALB	01/10/25 13:57

Client Sample ID: WS24-45 5-9'
Lab Sample ID: 885-18119-3
Date Collected: 01/06/25 10:20
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 12:29
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 12:29
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		2	19115	MI	EET ALB	01/10/25 10:13
Total/NA	Prep	300_Prep			19062	ES	EET ALB	01/09/25 10:28
Total/NA	Analysis	300.0		50	19195	JT	EET ALB	01/13/25 13:50

Client Sample ID: WS24-47 7-8'
Lab Sample ID: 885-18119-4
Date Collected: 01/06/25 13:20
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 14:51

Lab Chronicle

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-47 7-8'
Lab Sample ID: 885-18119-4
Date Collected: 01/06/25 13:20
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 14:51
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19115	MI	EET ALB	01/10/25 14:04
Total/NA	Prep	300_Prep			19136	JT	EET ALB	01/10/25 11:16
Total/NA	Analysis	300.0		20	19109	RC	EET ALB	01/10/25 14:56

Client Sample ID: WS24-48 0-4'
Lab Sample ID: 885-18119-5
Date Collected: 01/06/25 13:30
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 13:16
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 13:16
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19115	MI	EET ALB	01/10/25 14:15
Total/NA	Prep	300_Prep			19136	JT	EET ALB	01/10/25 11:16
Total/NA	Analysis	300.0		20	19109	RC	EET ALB	01/10/25 15:06

Client Sample ID: BS24-21 6.0'
Lab Sample ID: 885-18119-6
Date Collected: 01/07/25 10:25
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 13:40
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 13:40
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 17:12
Total/NA	Prep	300_Prep			19136	JT	EET ALB	01/10/25 11:16
Total/NA	Analysis	300.0		50	19195	JT	EET ALB	01/13/25 14:00

Client Sample ID: BS24-37 8.5'
Lab Sample ID: 885-18119-7
Date Collected: 01/07/25 14:35
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 14:03
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 14:03

Lab Chronicle

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-37 8.5'
Lab Sample ID: 885-18119-7
Date Collected: 01/07/25 14:35
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 17:23
Total/NA	Prep	300_Prep			19136	JT	EET ALB	01/10/25 11:16
Total/NA	Analysis	300.0		20	19109	RC	EET ALB	01/10/25 15:25

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr
Carlsbad, NM 88220

Phone #: 575-725-5001

email or Fax#: On File

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24hr

Project Name: Endurance Lariat Water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☐ Yes ☐ No

# of Coolers: 1 (Soil)

Cooler Temp(including CF): 1.2-0=1.2 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109 885-18119 COC
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
01.06.25	1000	Soil	BS24-44 6.0'	4oz	ICE	1										
	1010		WS24-44 0-5'			2										
	1020		WS24-45 5-9'			3										
	1320		WS24-47 7-8'			4										
	1330		WS24-48 0-4'			5										
01.07.25	1025		BS24-21 6.0'			6										
	1435		BS24-37 8.5'			7										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1/8/25	945				1/8/25	945
1/8/25	1900			courier	1/9/25	8:05

Remarks: Bill to Solaris (Rob Kirk)
cc: cdixon@vertexresource.com
ALudvik@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18119-1

Login Number: 18119 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: McQuiston, Steven

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/16/2025 11:53:48 AM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-18236-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/16/2025 11:53:48 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-18236-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-18236-1

Job ID: 885-18236-1 Eurofins Albuquerque

Job Narrative
885-18236-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/11/2025 9:02 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.7°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The continuing calibration verification (CCV) associated with batch 885-19178 recovered above the upper control limit for Motor Oil Range Organics [C28-C40]. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: WS24-54 0-4' (885-18236-1) and WS24-55 0-4' (885-18236-2).

Method 8015D_DRO: Surrogate recovery for the following samples is outside the lower control limit: WS24-56 0-4' (885-18236-3) and WS24-57 0-4' (885-18236-4). Due to matrix effect.

Method 8015D_DRO: The following sample required a dilution due to the nature of the sample matrix: WS24-58 0-4' (885-18236-5). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-54 0-4'
Lab Sample ID: 885-18236-1
Date Collected: 01/08/25 13:30
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.5		mg/Kg		01/13/25 09:32	01/13/25 12:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*35 - 166*	*01/13/25 09:32*	*01/13/25 12:14*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/13/25 09:32	01/13/25 12:14	1
Ethylbenzene	ND		0.035		mg/Kg		01/13/25 09:32	01/13/25 12:14	1
Toluene	ND		0.035		mg/Kg		01/13/25 09:32	01/13/25 12:14	1
Xylenes, Total	ND		0.071		mg/Kg		01/13/25 09:32	01/13/25 12:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*01/13/25 09:32*	*01/13/25 12:14*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		01/13/25 09:39	01/14/25 00:47	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		01/13/25 09:39	01/14/25 00:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/13/25 09:39*	*01/14/25 00:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/13/25 11:20	01/13/25 15:54	20

Client Sample Results

Client: Vertex
Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-55 0-4'
Lab Sample ID: 885-18236-2
Date Collected: 01/08/25 14:00
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.3		mg/Kg		01/13/25 09:32	01/13/25 12:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*01/13/25 09:32*	*01/13/25 12:36*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/13/25 09:32	01/13/25 12:36	1
Ethylbenzene	ND		0.033		mg/Kg		01/13/25 09:32	01/13/25 12:36	1
Toluene	ND		0.033		mg/Kg		01/13/25 09:32	01/13/25 12:36	1
Xylenes, Total	ND		0.067		mg/Kg		01/13/25 09:32	01/13/25 12:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*01/13/25 09:32*	*01/13/25 12:36*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/13/25 09:39	01/14/25 00:58	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/13/25 09:39	01/14/25 00:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*97*		*62 - 134*	*01/13/25 09:39*	*01/14/25 00:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**		60		mg/Kg		01/13/25 11:20	01/13/25 16:04	20

Client Sample Results

Client: Vertex
Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-56 0-4'
Lab Sample ID: 885-18236-3
Date Collected: 01/08/25 14:10
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	4.9		3.5		mg/Kg		01/13/25 09:32	01/13/25 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*168*	*S1+*	*35 - 166*	*01/13/25 09:32*	*01/13/25 12:58*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/13/25 09:32	01/13/25 12:58	1
Ethylbenzene	ND		0.035		mg/Kg		01/13/25 09:32	01/13/25 12:58	1
Toluene	ND		0.035		mg/Kg		01/13/25 09:32	01/13/25 12:58	1
Xylenes, Total	ND		0.070		mg/Kg		01/13/25 09:32	01/13/25 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*	*01/13/25 09:32*	*01/13/25 12:58*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1100		19		mg/Kg		01/13/25 09:39	01/15/25 12:17	2
Motor Oil Range Organics [C28-C40]	600		96		mg/Kg		01/13/25 09:39	01/15/25 12:17	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*	*01/13/25 09:39*	*01/15/25 12:17*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2900		150		mg/Kg		01/13/25 11:20	01/14/25 09:24	50

Client Sample Results

Client: Vertex
Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-57 0-4'
Lab Sample ID: 885-18236-4
Date Collected: 01/08/25 14:15
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	52		3.6		mg/Kg		01/13/25 09:32	01/13/25 13:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*229*	*S1+*	*35 - 166*	*01/13/25 09:32*	*01/13/25 13:20*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/13/25 09:32	01/13/25 13:20	1
Ethylbenzene	ND		0.036		mg/Kg		01/13/25 09:32	01/13/25 13:20	1
Toluene	ND		0.036		mg/Kg		01/13/25 09:32	01/13/25 13:20	1
Xylenes, Total	0.28		0.073		mg/Kg		01/13/25 09:32	01/13/25 13:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*		*48 - 145*	*01/13/25 09:32*	*01/13/25 13:20*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2900		49		mg/Kg		01/13/25 09:39	01/15/25 12:28	5
Motor Oil Range Organics [C28-C40]	1500		240		mg/Kg		01/13/25 09:39	01/15/25 12:28	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*189*	*S1+*	*62 - 134*	*01/13/25 09:39*	*01/15/25 12:28*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200		60		mg/Kg		01/13/25 11:20	01/13/25 16:25	20

Client Sample Results

Client: Vertex
Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-58 0-4'
Lab Sample ID: 885-18236-5
Date Collected: 01/08/25 14:20
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**140**		3.2		mg/Kg		01/13/25 09:32	01/13/25 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*494*	*S1+*	*35 - 166*	*01/13/25 09:32*	*01/13/25 13:42*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/13/25 09:32	01/13/25 13:42	1
Ethylbenzene	**0.14**		0.032		mg/Kg		01/13/25 09:32	01/13/25 13:42	1
Toluene	ND		0.032		mg/Kg		01/13/25 09:32	01/13/25 13:42	1
Xylenes, Total	**3.6**		0.064		mg/Kg		01/13/25 09:32	01/13/25 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*219*	*S1+*	*48 - 145*	*01/13/25 09:32*	*01/13/25 13:42*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**2900**		97		mg/Kg		01/13/25 09:39	01/15/25 15:29	10
Motor Oil Range Organics [C28-C40]	**1200**		490		mg/Kg		01/13/25 09:39	01/15/25 15:29	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*0*	*D S1-*	*62 - 134*	*01/13/25 09:39*	*01/15/25 15:29*	*10*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**		60		mg/Kg		01/13/25 11:20	01/13/25 16:35	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18236-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19181/1-A
Matrix: Solid
Analysis Batch: 19188

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19181

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/13/25 09:32	01/13/25 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*01/13/25 09:32*	*01/13/25 11:52*	*1*

Lab Sample ID: LCS 885-19181/2-A
Matrix: Solid
Analysis Batch: 19188

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19181

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	23.6		mg/Kg		94	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*198*		*35 - 166*

Lab Sample ID: 885-18236-1 MS
Matrix: Solid
Analysis Batch: 19188

Client Sample ID: WS24-54 0-4'
Prep Type: Total/NA
Prep Batch: 19181

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		17.6	14.3		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*184*		*35 - 166*

Lab Sample ID: 885-18236-1 MSD
Matrix: Solid
Analysis Batch: 19188

Client Sample ID: WS24-54 0-4'
Prep Type: Total/NA
Prep Batch: 19181

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		17.6	14.8		mg/Kg		84	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*182*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19181/1-A
Matrix: Solid
Analysis Batch: 19189

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19181

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/13/25 09:32	01/13/25 11:52	1
Ethylbenzene	ND		0.050		mg/Kg		01/13/25 09:32	01/13/25 11:52	1
Toluene	ND		0.050		mg/Kg		01/13/25 09:32	01/13/25 11:52	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18236-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-19181/1-A
Matrix: Solid
Analysis Batch: 19189

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19181

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/13/25 09:32	01/13/25 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*01/13/25 09:32*	*01/13/25 11:52*	*1*

Lab Sample ID: LCS 885-19181/3-A
Matrix: Solid
Analysis Batch: 19189

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19181

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.934		mg/Kg		93	70 - 130		
Ethylbenzene			1.00	0.942		mg/Kg		94	70 - 130		
m&p-Xylene			2.00	1.89		mg/Kg		95	70 - 130		
o-Xylene			1.00	0.956		mg/Kg		96	70 - 130		
Toluene			1.00	0.943		mg/Kg		94	70 - 130		
Xylenes, Total			3.00	2.85		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*48 - 145*

Lab Sample ID: 885-18236-2 MS
Matrix: Solid
Analysis Batch: 19189

Client Sample ID: WS24-55 0-4'
Prep Type: Total/NA
Prep Batch: 19181

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.669	0.641		mg/Kg		96	70 - 130		
Ethylbenzene	ND		0.669	0.639		mg/Kg		95	70 - 130		
m&p-Xylene	ND		1.34	1.27		mg/Kg		95	70 - 130		
o-Xylene	ND		0.669	0.642		mg/Kg		96	70 - 130		
Toluene	ND		0.669	0.636		mg/Kg		95	70 - 130		
Xylenes, Total	ND		2.01	1.91		mg/Kg		95	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*48 - 145*

Lab Sample ID: 885-18236-2 MSD
Matrix: Solid
Analysis Batch: 19189

Client Sample ID: WS24-55 0-4'
Prep Type: Total/NA
Prep Batch: 19181

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.669	0.628		mg/Kg		94	70 - 130	2	20
Ethylbenzene	ND		0.669	0.631		mg/Kg		94	70 - 130	1	20
m&p-Xylene	ND		1.34	1.26		mg/Kg		94	70 - 130	1	20
o-Xylene	ND		0.669	0.633		mg/Kg		95	70 - 130	1	20
Toluene	ND		0.669	0.629		mg/Kg		94	70 - 130	1	20
Xylenes, Total	ND		2.01	1.89		mg/Kg		94	70 - 130	1	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18236-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-18236-2 MSD
Matrix: Solid
Analysis Batch: 19189

Client Sample ID: WS24-55 0-4'
Prep Type: Total/NA
Prep Batch: 19181

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-19182/1-A
Matrix: Solid
Analysis Batch: 19178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19182

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/13/25 09:39	01/13/25 22:51	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/13/25 09:39	01/13/25 22:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*01/13/25 09:39*	*01/13/25 22:51*	*1*

Lab Sample ID: LCS 885-19182/2-A
Matrix: Solid
Analysis Batch: 19178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19182

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	30.0		mg/Kg		60	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*81*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MRL 885-19195/3
Matrix: Solid
Analysis Batch: 19195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.525		mg/L		105	50 - 150		

Lab Sample ID: MB 885-19198/1-A
Matrix: Solid
Analysis Batch: 19195

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19198

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/13/25 11:20	01/13/25 11:58	1

Lab Sample ID: LCS 885-19198/2-A
Matrix: Solid
Analysis Batch: 19195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19198

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.5		mg/Kg		98	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18236-1

GC VOA

Prep Batch: 19181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-1	WS24-54 0-4'	Total/NA	Solid	5035	
885-18236-2	WS24-55 0-4'	Total/NA	Solid	5035	
885-18236-3	WS24-56 0-4'	Total/NA	Solid	5035	
885-18236-4	WS24-57 0-4'	Total/NA	Solid	5035	
885-18236-5	WS24-58 0-4'	Total/NA	Solid	5035	
MB 885-19181/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19181/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19181/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-18236-1 MS	WS24-54 0-4'	Total/NA	Solid	5035	
885-18236-1 MSD	WS24-54 0-4'	Total/NA	Solid	5035	
885-18236-2 MS	WS24-55 0-4'	Total/NA	Solid	5035	
885-18236-2 MSD	WS24-55 0-4'	Total/NA	Solid	5035	

Analysis Batch: 19188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-1	WS24-54 0-4'	Total/NA	Solid	8015D	19181
885-18236-2	WS24-55 0-4'	Total/NA	Solid	8015D	19181
885-18236-3	WS24-56 0-4'	Total/NA	Solid	8015D	19181
885-18236-4	WS24-57 0-4'	Total/NA	Solid	8015D	19181
885-18236-5	WS24-58 0-4'	Total/NA	Solid	8015D	19181
MB 885-19181/1-A	Method Blank	Total/NA	Solid	8015D	19181
LCS 885-19181/2-A	Lab Control Sample	Total/NA	Solid	8015D	19181
885-18236-1 MS	WS24-54 0-4'	Total/NA	Solid	8015D	19181
885-18236-1 MSD	WS24-54 0-4'	Total/NA	Solid	8015D	19181

Analysis Batch: 19189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-1	WS24-54 0-4'	Total/NA	Solid	8021B	19181
885-18236-2	WS24-55 0-4'	Total/NA	Solid	8021B	19181
885-18236-3	WS24-56 0-4'	Total/NA	Solid	8021B	19181
885-18236-4	WS24-57 0-4'	Total/NA	Solid	8021B	19181
885-18236-5	WS24-58 0-4'	Total/NA	Solid	8021B	19181
MB 885-19181/1-A	Method Blank	Total/NA	Solid	8021B	19181
LCS 885-19181/3-A	Lab Control Sample	Total/NA	Solid	8021B	19181
885-18236-2 MS	WS24-55 0-4'	Total/NA	Solid	8021B	19181
885-18236-2 MSD	WS24-55 0-4'	Total/NA	Solid	8021B	19181

GC Semi VOA

Analysis Batch: 19178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-1	WS24-54 0-4'	Total/NA	Solid	8015D	19182
885-18236-2	WS24-55 0-4'	Total/NA	Solid	8015D	19182
MB 885-19182/1-A	Method Blank	Total/NA	Solid	8015D	19182
LCS 885-19182/2-A	Lab Control Sample	Total/NA	Solid	8015D	19182

Prep Batch: 19182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-1	WS24-54 0-4'	Total/NA	Solid	SHAKE	
885-18236-2	WS24-55 0-4'	Total/NA	Solid	SHAKE	
885-18236-3	WS24-56 0-4'	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

GC Semi VOA (Continued)

Prep Batch: 19182 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-4	WS24-57 0-4'	Total/NA	Solid	SHAKE	
885-18236-5	WS24-58 0-4'	Total/NA	Solid	SHAKE	
MB 885-19182/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-19182/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 19335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-3	WS24-56 0-4'	Total/NA	Solid	8015D	19182
885-18236-4	WS24-57 0-4'	Total/NA	Solid	8015D	19182
885-18236-5	WS24-58 0-4'	Total/NA	Solid	8015D	19182

HPLC/IC

Analysis Batch: 19195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-1	WS24-54 0-4'	Total/NA	Solid	300.0	19198
885-18236-2	WS24-55 0-4'	Total/NA	Solid	300.0	19198
885-18236-4	WS24-57 0-4'	Total/NA	Solid	300.0	19198
885-18236-5	WS24-58 0-4'	Total/NA	Solid	300.0	19198
MB 885-19198/1-A	Method Blank	Total/NA	Solid	300.0	19198
LCS 885-19198/2-A	Lab Control Sample	Total/NA	Solid	300.0	19198
MRL 885-19195/3	Lab Control Sample	Total/NA	Solid	300.0	

Prep Batch: 19198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-1	WS24-54 0-4'	Total/NA	Solid	300_Prep	
885-18236-2	WS24-55 0-4'	Total/NA	Solid	300_Prep	
885-18236-3	WS24-56 0-4'	Total/NA	Solid	300_Prep	
885-18236-4	WS24-57 0-4'	Total/NA	Solid	300_Prep	
885-18236-5	WS24-58 0-4'	Total/NA	Solid	300_Prep	
MB 885-19198/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19198/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18236-3	WS24-56 0-4'	Total/NA	Solid	300.0	19198

Lab Chronicle

Client: Vertex
Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-54 0-4'
Lab Sample ID: 885-18236-1
Date Collected: 01/08/25 13:30
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 12:14
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 12:14
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		1	19178	MI	EET ALB	01/14/25 00:47
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 15:54

Client Sample ID: WS24-55 0-4'
Lab Sample ID: 885-18236-2
Date Collected: 01/08/25 14:00
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 12:36
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 12:36
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		1	19178	MI	EET ALB	01/14/25 00:58
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 16:04

Client Sample ID: WS24-56 0-4'
Lab Sample ID: 885-18236-3
Date Collected: 01/08/25 14:10
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 12:58
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 12:58
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		2	19335	EM	EET ALB	01/15/25 12:17
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		50	19243	JT	EET ALB	01/14/25 09:24

Client Sample ID: WS24-57 0-4'
Lab Sample ID: 885-18236-4
Date Collected: 01/08/25 14:15
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 13:20

Lab Chronicle

Client: Vertex
Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-57 0-4'
Lab Sample ID: 885-18236-4
Date Collected: 01/08/25 14:15
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 13:20
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/15/25 12:28
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 16:25

Client Sample ID: WS24-58 0-4'
Lab Sample ID: 885-18236-5
Date Collected: 01/08/25 14:20
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 13:42
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 13:42
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		10	19335	EM	EET ALB	01/15/25 15:29
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 16:35

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18236-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109 885-18236 COC
Tel. 505-345-3975 Fax 505-345-4107

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr
Carlsbad NM 88220

Phone #: 575.725.5001

email or Fax#: on File

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24 hr

Project Name: Endurance Lariat Water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☑ Yes ☐ No mgj

# of Coolers: 1

Cooler Temp(including CF): 0.8-0.1=0.7 (°C)

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
01.08.25	1330	soil	WS24-54 0-4'	4 oz	ICE											
	1400		WS24-55 0-4'													
	1410		WS24-56 0-4'													
	1415		WS24-57 0-4'													
	1420		WS24-58 0-4'													

Date	Time	Relinquished by	Received by	Via	Date	Time
1/10/25	1000				1/10/25	1000
1/10/25	1910			courier	1/11/25	9:02

Remarks: Bill to Solaris (Rob Kirk)
cc: cDixon@vertexresource.com
ALudvik@vertexresource.com

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

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18236-1

Login Number: 18236 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/16/2025 11:53:48 AM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-18235-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/16/2025 11:53:48 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-18235-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-18235-1

Job ID: 885-18235-1 Eurofins Albuquerque

Job Narrative
885-18235-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/11/2025 9:02 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.7°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The continuing calibration verification (CCV) associated with batch 885-19178 recovered above the upper control limit for Motor Oil Range Organics [C28-C40]. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: WS24-59 4-8' (885-18235-1), WS24-60 4-9' (885-18235-2), BS24-02 9.0' (885-18235-3) and WS24-62 4-5' (885-18235-5).

Method 8015D_DRO: Surrogate recovery for the following sample is outside the lower control limit: WS24-63 6.5-8' (885-18235-6). Due to matrix effect.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-59 4-8'
Lab Sample ID: 885-18235-1
Date Collected: 01/09/25 10:30
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.7		mg/Kg		01/13/25 09:32	01/13/25 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*01/13/25 09:32*	*01/13/25 14:25*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/13/25 09:32	01/13/25 14:25	1
Ethylbenzene	ND		0.037		mg/Kg		01/13/25 09:32	01/13/25 14:25	1
Toluene	ND		0.037		mg/Kg		01/13/25 09:32	01/13/25 14:25	1
Xylenes, Total	ND		0.074		mg/Kg		01/13/25 09:32	01/13/25 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*01/13/25 09:32*	*01/13/25 14:25*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**47**		9.5		mg/Kg		01/13/25 09:39	01/13/25 23:12	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/13/25 09:39	01/13/25 23:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/13/25 09:39*	*01/13/25 23:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**240**		60		mg/Kg		01/13/25 11:20	01/13/25 14:10	20

Client Sample Results

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-60 4-9'
Lab Sample ID: 885-18235-2
Date Collected: 01/09/25 10:35
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.1		mg/Kg		01/13/25 09:32	01/13/25 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*35 - 166*	*01/13/25 09:32*	*01/13/25 14:47*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/13/25 09:32	01/13/25 14:47	1
Ethylbenzene	ND		0.041		mg/Kg		01/13/25 09:32	01/13/25 14:47	1
Toluene	ND		0.041		mg/Kg		01/13/25 09:32	01/13/25 14:47	1
Xylenes, Total	ND		0.083		mg/Kg		01/13/25 09:32	01/13/25 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*01/13/25 09:32*	*01/13/25 14:47*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		01/13/25 09:39	01/13/25 23:22	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/13/25 09:39	01/13/25 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*01/13/25 09:39*	*01/13/25 23:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**		60		mg/Kg		01/13/25 11:20	01/13/25 14:21	20

Client Sample Results

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-02 9.0'
Lab Sample ID: 885-18235-3
Date Collected: 01/09/25 10:45
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.2		mg/Kg		01/13/25 11:56	01/13/25 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*01/13/25 11:56*	*01/13/25 15:09*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/13/25 11:56	01/13/25 15:09	1
Ethylbenzene	ND		0.042		mg/Kg		01/13/25 11:56	01/13/25 15:09	1
Toluene	ND		0.042		mg/Kg		01/13/25 11:56	01/13/25 15:09	1
Xylenes, Total	ND		0.083		mg/Kg		01/13/25 11:56	01/13/25 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*48 - 145*	*01/13/25 11:56*	*01/13/25 15:09*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**59**		9.6		mg/Kg		01/13/25 09:39	01/13/25 23:33	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/13/25 09:39	01/13/25 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*01/13/25 09:39*	*01/13/25 23:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**		60		mg/Kg		01/13/25 11:20	01/13/25 14:31	20

Client Sample Results

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-61 4-7'
Lab Sample ID: 885-18235-4
Date Collected: 01/09/25 10:50
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.3		mg/Kg		01/13/25 11:56	01/13/25 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*35 - 166*	*01/13/25 11:56*	*01/13/25 15:31*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/13/25 11:56	01/13/25 15:31	1
Ethylbenzene	ND		0.033		mg/Kg		01/13/25 11:56	01/13/25 15:31	1
Toluene	ND		0.033		mg/Kg		01/13/25 11:56	01/13/25 15:31	1
Xylenes, Total	ND		0.066		mg/Kg		01/13/25 11:56	01/13/25 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*01/13/25 11:56*	*01/13/25 15:31*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**530**		9.3		mg/Kg		01/13/25 09:39	01/15/25 11:35	1
Motor Oil Range Organics [C28-C40]	**370**		47		mg/Kg		01/13/25 09:39	01/15/25 11:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*01/13/25 09:39*	*01/15/25 11:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**74**		60		mg/Kg		01/13/25 11:20	01/13/25 14:41	20

Client Sample Results

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-62 4-5'
Lab Sample ID: 885-18235-5
Date Collected: 01/09/25 11:00
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.8		mg/Kg		01/13/25 11:56	01/13/25 15:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*01/13/25 11:56*	*01/13/25 15:53*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/13/25 11:56	01/13/25 15:53	1
Ethylbenzene	ND		0.038		mg/Kg		01/13/25 11:56	01/13/25 15:53	1
Toluene	ND		0.038		mg/Kg		01/13/25 11:56	01/13/25 15:53	1
Xylenes, Total	ND		0.075		mg/Kg		01/13/25 11:56	01/13/25 15:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*01/13/25 11:56*	*01/13/25 15:53*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		01/13/25 09:39	01/13/25 23:54	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/13/25 09:39	01/13/25 23:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/13/25 09:39*	*01/13/25 23:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**61**		60		mg/Kg		01/13/25 11:20	01/13/25 14:52	20

Client Sample Results

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-63 6.5-8'
Lab Sample ID: 885-18235-6
Date Collected: 01/09/25 13:00
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	27		4.3		mg/Kg		01/13/25 11:56	01/13/25 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*148*		*35 - 166*	*01/13/25 11:56*	*01/13/25 16:36*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/13/25 11:56	01/13/25 16:36	1
Ethylbenzene	ND		0.043		mg/Kg		01/13/25 11:56	01/13/25 16:36	1
Toluene	ND		0.043		mg/Kg		01/13/25 11:56	01/13/25 16:36	1
Xylenes, Total	0.18		0.085		mg/Kg		01/13/25 11:56	01/13/25 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*48 - 145*	*01/13/25 11:56*	*01/13/25 16:36*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1400		19		mg/Kg		01/13/25 09:39	01/15/25 11:45	2
Motor Oil Range Organics [C28-C40]	850		96		mg/Kg		01/13/25 09:39	01/15/25 11:45	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*122*		*62 - 134*	*01/13/25 09:39*	*01/15/25 11:45*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5300		150		mg/Kg		01/13/25 11:20	01/14/25 09:14	50

Client Sample Results

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-65 7-9'
Lab Sample ID: 885-18235-7
Date Collected: 01/09/25 13:10
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.1		mg/Kg		01/13/25 11:56	01/13/25 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*35 - 166*	*01/13/25 11:56*	*01/13/25 16:58*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		01/13/25 11:56	01/13/25 16:58	1
Ethylbenzene	ND		0.041		mg/Kg		01/13/25 11:56	01/13/25 16:58	1
Toluene	ND		0.041		mg/Kg		01/13/25 11:56	01/13/25 16:58	1
Xylenes, Total	ND		0.081		mg/Kg		01/13/25 11:56	01/13/25 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*48 - 145*	*01/13/25 11:56*	*01/13/25 16:58*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**17**		9.7		mg/Kg		01/13/25 09:39	01/15/25 14:42	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/13/25 09:39	01/15/25 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*	*01/13/25 09:39*	*01/15/25 14:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/13/25 11:20	01/13/25 15:12	20

Client Sample Results

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-12 4-4.5'
Lab Sample ID: 885-18235-8
Date Collected: 01/09/25 13:20
Matrix: Solid
Date Received: 01/11/25 09:02

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.4		mg/Kg		01/13/25 11:56	01/13/25 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*35 - 166*	*01/13/25 11:56*	*01/13/25 17:20*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.022		mg/Kg		01/13/25 11:56	01/13/25 17:20	1
Ethylbenzene	ND		0.044		mg/Kg		01/13/25 11:56	01/13/25 17:20	1
Toluene	ND		0.044		mg/Kg		01/13/25 11:56	01/13/25 17:20	1
Xylenes, Total	ND		0.087		mg/Kg		01/13/25 11:56	01/13/25 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*01/13/25 11:56*	*01/13/25 17:20*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**77**		9.7		mg/Kg		01/13/25 09:39	01/15/25 12:07	1
Motor Oil Range Organics [C28-C40]	**58**		49		mg/Kg		01/13/25 09:39	01/15/25 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*113*		*62 - 134*	*01/13/25 09:39*	*01/15/25 12:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**520**		60		mg/Kg		01/13/25 11:20	01/13/25 15:43	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18235-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19181/1-A
Matrix: Solid
Analysis Batch: 19188

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19181

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/13/25 09:32	01/13/25 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*01/13/25 09:32*	*01/13/25 11:52*	*1*

Lab Sample ID: LCS 885-19181/2-A
Matrix: Solid
Analysis Batch: 19188

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19181

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	23.6		mg/Kg		94	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*198*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19181/1-A
Matrix: Solid
Analysis Batch: 19189

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19181

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/13/25 09:32	01/13/25 11:52	1
Ethylbenzene	ND		0.050		mg/Kg		01/13/25 09:32	01/13/25 11:52	1
Toluene	ND		0.050		mg/Kg		01/13/25 09:32	01/13/25 11:52	1
Xylenes, Total	ND		0.10		mg/Kg		01/13/25 09:32	01/13/25 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*01/13/25 09:32*	*01/13/25 11:52*	*1*

Lab Sample ID: LCS 885-19181/3-A
Matrix: Solid
Analysis Batch: 19189

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19181

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.934		mg/Kg		93	70 - 130		
Ethylbenzene			1.00	0.942		mg/Kg		94	70 - 130		
m&p-Xylene			2.00	1.89		mg/Kg		95	70 - 130		
o-Xylene			1.00	0.956		mg/Kg		96	70 - 130		
Toluene			1.00	0.943		mg/Kg		94	70 - 130		
Xylenes, Total			3.00	2.85		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18235-1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-19182/1-A
Matrix: Solid
Analysis Batch: 19178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19182

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/13/25 09:39	01/13/25 22:51	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/13/25 09:39	01/13/25 22:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*01/13/25 09:39*	*01/13/25 22:51*	*1*

Lab Sample ID: LCS 885-19182/2-A
Matrix: Solid
Analysis Batch: 19178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19182

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	30.0		mg/Kg		60	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*81*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MRL 885-19195/3
Matrix: Solid
Analysis Batch: 19195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.525		mg/L		105	50 - 150		

Lab Sample ID: MB 885-19198/1-A
Matrix: Solid
Analysis Batch: 19195

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19198

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/13/25 11:20	01/13/25 11:58	1

Lab Sample ID: LCS 885-19198/2-A
Matrix: Solid
Analysis Batch: 19195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19198

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.5		mg/Kg		98	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18235-1

GC VOA

Prep Batch: 19181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18235-1	WS24-59 4-8'	Total/NA	Solid	5035	
885-18235-2	WS24-60 4-9'	Total/NA	Solid	5035	
885-18235-3	BS24-02 9.0'	Total/NA	Solid	5035	
885-18235-4	WS24-61 4-7'	Total/NA	Solid	5035	
885-18235-5	WS24-62 4-5'	Total/NA	Solid	5035	
885-18235-6	WS24-63 6.5-8'	Total/NA	Solid	5035	
885-18235-7	WS24-65 7-9'	Total/NA	Solid	5035	
885-18235-8	WS24-12 4-4.5'	Total/NA	Solid	5035	
MB 885-19181/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19181/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19181/3-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 19188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18235-1	WS24-59 4-8'	Total/NA	Solid	8015D	19181
885-18235-2	WS24-60 4-9'	Total/NA	Solid	8015D	19181
885-18235-3	BS24-02 9.0'	Total/NA	Solid	8015D	19181
885-18235-4	WS24-61 4-7'	Total/NA	Solid	8015D	19181
885-18235-5	WS24-62 4-5'	Total/NA	Solid	8015D	19181
885-18235-6	WS24-63 6.5-8'	Total/NA	Solid	8015D	19181
885-18235-7	WS24-65 7-9'	Total/NA	Solid	8015D	19181
885-18235-8	WS24-12 4-4.5'	Total/NA	Solid	8015D	19181
MB 885-19181/1-A	Method Blank	Total/NA	Solid	8015D	19181
LCS 885-19181/2-A	Lab Control Sample	Total/NA	Solid	8015D	19181

Analysis Batch: 19189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18235-1	WS24-59 4-8'	Total/NA	Solid	8021B	19181
885-18235-2	WS24-60 4-9'	Total/NA	Solid	8021B	19181
885-18235-3	BS24-02 9.0'	Total/NA	Solid	8021B	19181
885-18235-4	WS24-61 4-7'	Total/NA	Solid	8021B	19181
885-18235-5	WS24-62 4-5'	Total/NA	Solid	8021B	19181
885-18235-6	WS24-63 6.5-8'	Total/NA	Solid	8021B	19181
885-18235-7	WS24-65 7-9'	Total/NA	Solid	8021B	19181
885-18235-8	WS24-12 4-4.5'	Total/NA	Solid	8021B	19181
MB 885-19181/1-A	Method Blank	Total/NA	Solid	8021B	19181
LCS 885-19181/3-A	Lab Control Sample	Total/NA	Solid	8021B	19181

GC Semi VOA

Analysis Batch: 19178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18235-1	WS24-59 4-8'	Total/NA	Solid	8015D	19182
885-18235-2	WS24-60 4-9'	Total/NA	Solid	8015D	19182
885-18235-3	BS24-02 9.0'	Total/NA	Solid	8015D	19182
885-18235-5	WS24-62 4-5'	Total/NA	Solid	8015D	19182
MB 885-19182/1-A	Method Blank	Total/NA	Solid	8015D	19182
LCS 885-19182/2-A	Lab Control Sample	Total/NA	Solid	8015D	19182

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18235-1

GC Semi VOA

Prep Batch: 19182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18235-1	WS24-59 4-8'	Total/NA	Solid	SHAKE	
885-18235-2	WS24-60 4-9'	Total/NA	Solid	SHAKE	
885-18235-3	BS24-02 9.0'	Total/NA	Solid	SHAKE	
885-18235-4	WS24-61 4-7'	Total/NA	Solid	SHAKE	
885-18235-5	WS24-62 4-5'	Total/NA	Solid	SHAKE	
885-18235-6	WS24-63 6.5-8'	Total/NA	Solid	SHAKE	
885-18235-7	WS24-65 7-9'	Total/NA	Solid	SHAKE	
885-18235-8	WS24-12 4-4.5'	Total/NA	Solid	SHAKE	
MB 885-19182/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-19182/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 19335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18235-4	WS24-61 4-7'	Total/NA	Solid	8015D	19182
885-18235-6	WS24-63 6.5-8'	Total/NA	Solid	8015D	19182
885-18235-7	WS24-65 7-9'	Total/NA	Solid	8015D	19182
885-18235-8	WS24-12 4-4.5'	Total/NA	Solid	8015D	19182

HPLC/IC

Analysis Batch: 19195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18235-1	WS24-59 4-8'	Total/NA	Solid	300.0	19198
885-18235-2	WS24-60 4-9'	Total/NA	Solid	300.0	19198
885-18235-3	BS24-02 9.0'	Total/NA	Solid	300.0	19198
885-18235-4	WS24-61 4-7'	Total/NA	Solid	300.0	19198
885-18235-5	WS24-62 4-5'	Total/NA	Solid	300.0	19198
885-18235-7	WS24-65 7-9'	Total/NA	Solid	300.0	19198
885-18235-8	WS24-12 4-4.5'	Total/NA	Solid	300.0	19198
MB 885-19198/1-A	Method Blank	Total/NA	Solid	300.0	19198
LCS 885-19198/2-A	Lab Control Sample	Total/NA	Solid	300.0	19198
MRL 885-19195/3	Lab Control Sample	Total/NA	Solid	300.0	

Prep Batch: 19198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18235-1	WS24-59 4-8'	Total/NA	Solid	300_Prep	
885-18235-2	WS24-60 4-9'	Total/NA	Solid	300_Prep	
885-18235-3	BS24-02 9.0'	Total/NA	Solid	300_Prep	
885-18235-4	WS24-61 4-7'	Total/NA	Solid	300_Prep	
885-18235-5	WS24-62 4-5'	Total/NA	Solid	300_Prep	
885-18235-6	WS24-63 6.5-8'	Total/NA	Solid	300_Prep	
885-18235-7	WS24-65 7-9'	Total/NA	Solid	300_Prep	
885-18235-8	WS24-12 4-4.5'	Total/NA	Solid	300_Prep	
MB 885-19198/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19198/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18235-6	WS24-63 6.5-8'	Total/NA	Solid	300.0	19198

Lab Chronicle

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-59 4-8'
Lab Sample ID: 885-18235-1
Date Collected: 01/09/25 10:30
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 14:25
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 14:25
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		1	19178	MI	EET ALB	01/13/25 23:12
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 14:10

Client Sample ID: WS24-60 4-9'
Lab Sample ID: 885-18235-2
Date Collected: 01/09/25 10:35
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 14:47
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 09:32
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 14:47
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		1	19178	MI	EET ALB	01/13/25 23:22
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 14:21

Client Sample ID: BS24-02 9.0'
Lab Sample ID: 885-18235-3
Date Collected: 01/09/25 10:45
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 15:09
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 15:09
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		1	19178	MI	EET ALB	01/13/25 23:33
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 14:31

Client Sample ID: WS24-61 4-7'
Lab Sample ID: 885-18235-4
Date Collected: 01/09/25 10:50
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 15:31

Lab Chronicle

Client: Vertex
Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-61 4-7'
Lab Sample ID: 885-18235-4
Date Collected: 01/09/25 10:50
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 15:31
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		1	19335	EM	EET ALB	01/15/25 11:35
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 14:41

Client Sample ID: WS24-62 4-5'
Lab Sample ID: 885-18235-5
Date Collected: 01/09/25 11:00
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 15:53
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 15:53
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		1	19178	MI	EET ALB	01/13/25 23:54
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 14:52

Client Sample ID: WS24-63 6.5-8'
Lab Sample ID: 885-18235-6
Date Collected: 01/09/25 13:00
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 16:36
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 16:36
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		2	19335	EM	EET ALB	01/15/25 11:45
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		50	19243	JT	EET ALB	01/14/25 09:14

Client Sample ID: WS24-65 7-9'
Lab Sample ID: 885-18235-7
Date Collected: 01/09/25 13:10
Matrix: Solid
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 16:58
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 16:58

Lab Chronicle

Client: Vertex Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-65 7-9' Lab Sample ID: 885-18235-7

Date Collected: 01/09/25 13:10 **Matrix: Solid**
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		1	19335	EM	EET ALB	01/15/25 14:42
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 15:12

Client Sample ID: WS24-12 4-4.5' Lab Sample ID: 885-18235-8

Date Collected: 01/09/25 13:20 **Matrix: Solid**
Date Received: 01/11/25 09:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8015D		1	19188	AT	EET ALB	01/13/25 17:20
Total/NA	Prep	5035			19181	AT	EET ALB	01/13/25 11:56
Total/NA	Analysis	8021B		1	19189	AT	EET ALB	01/13/25 17:20
Total/NA	Prep	SHAKE			19182	EM	EET ALB	01/13/25 09:39
Total/NA	Analysis	8015D		1	19335	EM	EET ALB	01/15/25 12:07
Total/NA	Prep	300_Prep			19198	JT	EET ALB	01/13/25 11:20
Total/NA	Analysis	300.0		20	19195	JT	EET ALB	01/13/25 15:43

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18235-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr
Carlsbad NM 88220

Phone #: 575.725.5001

email or Fax#: On File

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24hr

Project Name:
Endurance Lariat Water Line

Project #:
24E-03247

Project Manager:
Chance Dixon

Sampler: AL
On Ice: ☒ Yes ☐ No mojo
# of Coolers: 1
Cooler Temp(including CF): 0.8-0.1=0.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORA
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
885-18235 COC

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
01.09.25	1030	Soil	WS24-59 4-8'	4oz	ICE	
	1035		WS24-60 4-9'			
	1045		BS24-02 9.0'			
	1050		WS24-61 4-7'			
	1100		WS24-62 4-5'			
	1300		WS24-63 6.5-8'			
	1310		WS24-65 7-9'			
↓	1320	↓	WS24-12 4-4.5'	↓	↓	

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	CDF, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
↓	↓					↓			

Date	Time	Relinquished by	Received by	Via	Date	Time
1/10/25	1000				1/10/25	1000
1/10/25	1910			courier	1/11/25	9:02

Remarks: Bill to Solaris (Rob Kirk)
cc: CDixon@vertexresource.com
ALudwick@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18235-1

Login Number: 18235 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/16/2025 5:53:43 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-18357-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/16/2025 5:53:43 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
Designee for
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-18357-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18357-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-18357-1

Job ID: 885-18357-1 Eurofins Albuquerque

Job Narrative
885-18357-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/14/2025 3:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.5°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18357-1

Client Sample ID: WS24-69 4-5'
Date Collected: 01/10/25 10:55
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18357-1
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**26**		4.3		mg/Kg		01/14/25 16:23	01/14/25 21:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*217*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 21:58*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.022		mg/Kg		01/14/25 16:23	01/14/25 21:58	1
Ethylbenzene	**0.053**		0.043		mg/Kg		01/14/25 16:23	01/14/25 21:58	1
Toluene	ND		0.043		mg/Kg		01/14/25 16:23	01/14/25 21:58	1
Xylenes, Total	**0.23**		0.087		mg/Kg		01/14/25 16:23	01/14/25 21:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*48 - 145*	*01/14/25 16:23*	*01/14/25 21:58*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**440**		93		mg/Kg		01/15/25 08:56	01/16/25 00:33	10
Motor Oil Range Organics [C28-C40]	**510**		470		mg/Kg		01/15/25 08:56	01/16/25 00:33	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*01/15/25 08:56*	*01/16/25 00:33*	*10*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**360**		60		mg/Kg		01/15/25 09:57	01/15/25 11:46	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18357-1

Client Sample ID: WS24-72 4-6'

Date Collected: 01/10/25 11:00
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18357-2

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**23**		4.3		mg/Kg		01/14/25 16:23	01/14/25 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*217*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 22:20*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/14/25 16:23	01/14/25 22:20	1
Ethylbenzene	**0.050**		0.043		mg/Kg		01/14/25 16:23	01/14/25 22:20	1
Toluene	ND		0.043		mg/Kg		01/14/25 16:23	01/14/25 22:20	1
Xylenes, Total	**0.24**		0.086		mg/Kg		01/14/25 16:23	01/14/25 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*48 - 145*	*01/14/25 16:23*	*01/14/25 22:20*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**480**		99		mg/Kg		01/15/25 08:56	01/16/25 00:43	10
Motor Oil Range Organics [C28-C40]	**640**		500		mg/Kg		01/15/25 08:56	01/16/25 00:43	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*79*		*62 - 134*	*01/15/25 08:56*	*01/16/25 00:43*	*10*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**450**		60		mg/Kg		01/15/25 09:57	01/15/25 11:56	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18357-1

Client Sample ID: WS24-73 4-8'

Date Collected: 01/10/25 11:05
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18357-3

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**21**		4.0		mg/Kg		01/14/25 16:23	01/14/25 23:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*205*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 23:04*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		01/14/25 16:23	01/14/25 23:04	1
Ethylbenzene	**0.045**		0.040		mg/Kg		01/14/25 16:23	01/14/25 23:04	1
Toluene	ND		0.040		mg/Kg		01/14/25 16:23	01/14/25 23:04	1
Xylenes, Total	**0.20**		0.079		mg/Kg		01/14/25 16:23	01/14/25 23:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*48 - 145*	*01/14/25 16:23*	*01/14/25 23:04*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**460**		49		mg/Kg		01/15/25 08:56	01/16/25 15:02	5
Motor Oil Range Organics [C28-C40]	**360**		250		mg/Kg		01/15/25 08:56	01/16/25 15:02	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*116*		*62 - 134*	*01/15/25 08:56*	*01/16/25 15:02*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**400**		60		mg/Kg		01/15/25 09:57	01/15/25 12:06	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18357-1

Client Sample ID: WS24-74 4-5'

Date Collected: 01/10/25 11:10
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18357-4

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**24**		3.7		mg/Kg		01/14/25 16:23	01/14/25 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*224*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 23:25*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/14/25 16:23	01/14/25 23:25	1
Ethylbenzene	**0.050**		0.037		mg/Kg		01/14/25 16:23	01/14/25 23:25	1
Toluene	ND		0.037		mg/Kg		01/14/25 16:23	01/14/25 23:25	1
Xylenes, Total	**0.26**		0.075		mg/Kg		01/14/25 16:23	01/14/25 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*48 - 145*	*01/14/25 16:23*	*01/14/25 23:25*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**410**		95		mg/Kg		01/15/25 08:56	01/16/25 01:35	10
Motor Oil Range Organics [C28-C40]	**510**		470		mg/Kg		01/15/25 08:56	01/16/25 01:35	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*01/15/25 08:56*	*01/16/25 01:35*	*10*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**350**		60		mg/Kg		01/15/25 09:57	01/15/25 12:17	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18357-1

Client Sample ID: WS24-75 4-8'

Date Collected: 01/10/25 11:15
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18357-5

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**43**		4.8		mg/Kg		01/14/25 16:23	01/14/25 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*272*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 23:47*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		01/14/25 16:23	01/14/25 23:47	1
Ethylbenzene	**0.092**		0.048		mg/Kg		01/14/25 16:23	01/14/25 23:47	1
Toluene	ND		0.048		mg/Kg		01/14/25 16:23	01/14/25 23:47	1
Xylenes, Total	**0.48**		0.096		mg/Kg		01/14/25 16:23	01/14/25 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*48 - 145*	*01/14/25 16:23*	*01/14/25 23:47*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**750**		98		mg/Kg		01/15/25 08:56	01/16/25 01:46	10
Motor Oil Range Organics [C28-C40]	**610**		490		mg/Kg		01/15/25 08:56	01/16/25 01:46	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*	*01/15/25 08:56*	*01/16/25 01:46*	*10*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**600**		61		mg/Kg		01/15/25 09:57	01/15/25 12:27	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18357-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19319/1-A
Matrix: Solid
Analysis Batch: 19345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19319

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/14/25 16:23	01/14/25 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*35 - 166*	*01/14/25 16:23*	*01/14/25 18:42*	*1*

Lab Sample ID: LCS 885-19319/2-A
Matrix: Solid
Analysis Batch: 19345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19319

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	20.2		mg/Kg		81	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*189*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19319/1-A
Matrix: Solid
Analysis Batch: 19346

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19319

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/14/25 16:23	01/14/25 18:42	1
Ethylbenzene	ND		0.050		mg/Kg		01/14/25 16:23	01/14/25 18:42	1
Toluene	ND		0.050		mg/Kg		01/14/25 16:23	01/14/25 18:42	1
Xylenes, Total	ND		0.10		mg/Kg		01/14/25 16:23	01/14/25 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*01/14/25 16:23*	*01/14/25 18:42*	*1*

Lab Sample ID: LCS 885-19319/3-A
Matrix: Solid
Analysis Batch: 19346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19319

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.942		mg/Kg		94	70 - 130		
Ethylbenzene			1.00	0.974		mg/Kg		97	70 - 130		
m&p-Xylene			2.00	1.92		mg/Kg		96	70 - 130		
o-Xylene			1.00	0.973		mg/Kg		97	70 - 130		
Toluene			1.00	0.958		mg/Kg		96	70 - 130		
Xylenes, Total			3.00	2.90		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18357-1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-19338/1-A
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19338

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/15/25 08:56	01/16/25 00:12	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/15/25 08:56	01/16/25 00:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*	*01/15/25 08:56*	*01/16/25 00:12*	*1*

Lab Sample ID: LCS 885-19338/2-A
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19338

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	47.0		mg/Kg		94	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-19348/1-A
Matrix: Solid
Analysis Batch: 19352

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19348

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/15/25 09:57	01/15/25 11:10	1

Lab Sample ID: LCS 885-19348/2-A
Matrix: Solid
Analysis Batch: 19352

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19348

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	30.8		mg/Kg		103	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18357-1

GC VOA

Prep Batch: 19319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18357-1	WS24-69 4-5'	Total/NA	Solid	5035	
885-18357-2	WS24-72 4-6'	Total/NA	Solid	5035	
885-18357-3	WS24-73 4-8'	Total/NA	Solid	5035	
885-18357-4	WS24-74 4-5'	Total/NA	Solid	5035	
885-18357-5	WS24-75 4-8'	Total/NA	Solid	5035	
MB 885-19319/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19319/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19319/3-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 19345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18357-1	WS24-69 4-5'	Total/NA	Solid	8015D	19319
885-18357-2	WS24-72 4-6'	Total/NA	Solid	8015D	19319
885-18357-3	WS24-73 4-8'	Total/NA	Solid	8015D	19319
885-18357-4	WS24-74 4-5'	Total/NA	Solid	8015D	19319
885-18357-5	WS24-75 4-8'	Total/NA	Solid	8015D	19319
MB 885-19319/1-A	Method Blank	Total/NA	Solid	8015D	19319
LCS 885-19319/2-A	Lab Control Sample	Total/NA	Solid	8015D	19319

Analysis Batch: 19346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18357-1	WS24-69 4-5'	Total/NA	Solid	8021B	19319
885-18357-2	WS24-72 4-6'	Total/NA	Solid	8021B	19319
885-18357-3	WS24-73 4-8'	Total/NA	Solid	8021B	19319
885-18357-4	WS24-74 4-5'	Total/NA	Solid	8021B	19319
885-18357-5	WS24-75 4-8'	Total/NA	Solid	8021B	19319
MB 885-19319/1-A	Method Blank	Total/NA	Solid	8021B	19319
LCS 885-19319/3-A	Lab Control Sample	Total/NA	Solid	8021B	19319

GC Semi VOA

Analysis Batch: 19335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18357-1	WS24-69 4-5'	Total/NA	Solid	8015D	19338
885-18357-2	WS24-72 4-6'	Total/NA	Solid	8015D	19338
885-18357-3	WS24-73 4-8'	Total/NA	Solid	8015D	19338
885-18357-4	WS24-74 4-5'	Total/NA	Solid	8015D	19338
885-18357-5	WS24-75 4-8'	Total/NA	Solid	8015D	19338
MB 885-19338/1-A	Method Blank	Total/NA	Solid	8015D	19338
LCS 885-19338/2-A	Lab Control Sample	Total/NA	Solid	8015D	19338

Prep Batch: 19338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18357-1	WS24-69 4-5'	Total/NA	Solid	SHAKE	
885-18357-2	WS24-72 4-6'	Total/NA	Solid	SHAKE	
885-18357-3	WS24-73 4-8'	Total/NA	Solid	SHAKE	
885-18357-4	WS24-74 4-5'	Total/NA	Solid	SHAKE	
885-18357-5	WS24-75 4-8'	Total/NA	Solid	SHAKE	
MB 885-19338/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-19338/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18357-1

HPLC/IC

Prep Batch: 19348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18357-1	WS24-69 4-5'	Total/NA	Solid	300_Prep	
885-18357-2	WS24-72 4-6'	Total/NA	Solid	300_Prep	
885-18357-3	WS24-73 4-8'	Total/NA	Solid	300_Prep	
885-18357-4	WS24-74 4-5'	Total/NA	Solid	300_Prep	
885-18357-5	WS24-75 4-8'	Total/NA	Solid	300_Prep	
MB 885-19348/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19348/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18357-1	WS24-69 4-5'	Total/NA	Solid	300.0	19348
885-18357-2	WS24-72 4-6'	Total/NA	Solid	300.0	19348
885-18357-3	WS24-73 4-8'	Total/NA	Solid	300.0	19348
885-18357-4	WS24-74 4-5'	Total/NA	Solid	300.0	19348
885-18357-5	WS24-75 4-8'	Total/NA	Solid	300.0	19348
MB 885-19348/1-A	Method Blank	Total/NA	Solid	300.0	19348
LCS 885-19348/2-A	Lab Control Sample	Total/NA	Solid	300.0	19348

Lab Chronicle

Client: Vertex
Job ID: 885-18357-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-69 4-5'
Lab Sample ID: 885-18357-1
Date Collected: 01/10/25 10:55
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 21:58
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 21:58
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		10	19335	EM	EET ALB	01/16/25 00:33
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 11:46

Client Sample ID: WS24-72 4-6'
Lab Sample ID: 885-18357-2
Date Collected: 01/10/25 11:00
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 22:20
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 22:20
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		10	19335	EM	EET ALB	01/16/25 00:43
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 11:56

Client Sample ID: WS24-73 4-8'
Lab Sample ID: 885-18357-3
Date Collected: 01/10/25 11:05
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 23:04
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 23:04
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/16/25 15:02
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 12:06

Client Sample ID: WS24-74 4-5'
Lab Sample ID: 885-18357-4
Date Collected: 01/10/25 11:10
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 23:25

Lab Chronicle

Client: Vertex
Job ID: 885-18357-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-74 4-5'
Lab Sample ID: 885-18357-4
Date Collected: 01/10/25 11:10
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 23:25
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		10	19335	EM	EET ALB	01/16/25 01:35
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 12:17

Client Sample ID: WS24-75 4-8'
Lab Sample ID: 885-18357-5
Date Collected: 01/10/25 11:15
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 23:47
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 23:47
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		10	19335	EM	EET ALB	01/16/25 01:46
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 12:27

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18357-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

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 24 hr

Project Name: Endurance Lariat Water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☒ Yes ☐ No

# of Coolers: 1 MOJO

Cooler Temp(including CF): 3.3+0.2=3.5 (°C)

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

885-18357 COC

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
01.10.25	1055	Soil	WS24-69 4-5'	4oz	ICE	
	1100		WS24-72 4-6'			
	1105		WS24-73 4-8'			
	1110		WS24-74 4-5'			
	1115		WS24-75 4-8'			

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)
X	X					X			

Date	Time	Relinquished by	Received by	Via	Date	Time
1/13/25	800				1/13/25	800
1/13/25	1900		SCM COURIER		1/14/25	1525

Remarks: Bill to Solaris (Rob Kirk
cc: cDixon@vertexresource.com
ALudvik@vertexresource.com
Katrina.Taylor@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18357-1

Login Number: 18357 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/16/2025 5:49:52 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-18358-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

my EOL

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/16/2025 5:49:52 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
Designee for
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-18358-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18358-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-18358-1

Job ID: 885-18358-1 Eurofins Albuquerque

Job Narrative
885-18358-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/14/2025 3:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.5°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Client Sample ID: WS24-66 4-6'

Date Collected: 01/10/25 10:30
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18358-1

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**11**		3.7		mg/Kg		01/14/25 16:23	01/14/25 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*173*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 19:04*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/14/25 16:23	01/14/25 19:04	1
Ethylbenzene	ND		0.037		mg/Kg		01/14/25 16:23	01/14/25 19:04	1
Toluene	ND		0.037		mg/Kg		01/14/25 16:23	01/14/25 19:04	1
Xylenes, Total	**0.088**		0.075		mg/Kg		01/14/25 16:23	01/14/25 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*48 - 145*	*01/14/25 16:23*	*01/14/25 19:04*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**450**		47		mg/Kg		01/15/25 08:56	01/16/25 15:13	5
Motor Oil Range Organics [C28-C40]	**400**		230		mg/Kg		01/15/25 08:56	01/16/25 15:13	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*01/15/25 08:56*	*01/16/25 15:13*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**320**		60		mg/Kg		01/15/25 09:57	01/15/25 12:37	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Client Sample ID: WS24-67 4-9'
Date Collected: 01/10/25 10:40
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18358-2
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**17**		3.7		mg/Kg		01/14/25 16:23	01/14/25 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*199*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 19:26*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/14/25 16:23	01/14/25 19:26	1
Ethylbenzene	**0.037**		0.037		mg/Kg		01/14/25 16:23	01/14/25 19:26	1
Toluene	ND		0.037		mg/Kg		01/14/25 16:23	01/14/25 19:26	1
Xylenes, Total	**0.17**		0.074		mg/Kg		01/14/25 16:23	01/14/25 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*48 - 145*	*01/14/25 16:23*	*01/14/25 19:26*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**300**		48		mg/Kg		01/15/25 08:56	01/16/25 15:24	5
Motor Oil Range Organics [C28-C40]	**370**		240		mg/Kg		01/15/25 08:56	01/16/25 15:24	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*01/15/25 08:56*	*01/16/25 15:24*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**530**		60		mg/Kg		01/15/25 09:57	01/15/25 12:48	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Client Sample ID: WS24-68 4-5'

Date Collected: 01/10/25 10:50
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18358-3

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**11**		3.7		mg/Kg		01/14/25 16:23	01/14/25 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*244*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 19:48*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/14/25 16:23	01/14/25 19:48	1
Ethylbenzene	ND		0.037		mg/Kg		01/14/25 16:23	01/14/25 19:48	1
Toluene	ND		0.037		mg/Kg		01/14/25 16:23	01/14/25 19:48	1
Xylenes, Total	**0.11**		0.075		mg/Kg		01/14/25 16:23	01/14/25 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*48 - 145*	*01/14/25 16:23*	*01/14/25 19:48*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**370**		50		mg/Kg		01/15/25 08:56	01/16/25 15:34	5
Motor Oil Range Organics [C28-C40]	**410**		250		mg/Kg		01/15/25 08:56	01/16/25 15:34	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*	*01/15/25 08:56*	*01/16/25 15:34*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**210**		60		mg/Kg		01/15/25 09:57	01/15/25 12:58	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Client Sample ID: BS24-48 5.0'
Date Collected: 01/10/25 13:30
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18358-4
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**30**		4.2		mg/Kg		01/14/25 16:23	01/14/25 20:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*230*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 20:09*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/14/25 16:23	01/14/25 20:09	1
Ethylbenzene	**0.060**		0.042		mg/Kg		01/14/25 16:23	01/14/25 20:09	1
Toluene	ND		0.042		mg/Kg		01/14/25 16:23	01/14/25 20:09	1
Xylenes, Total	**0.28**		0.085		mg/Kg		01/14/25 16:23	01/14/25 20:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*48 - 145*	*01/14/25 16:23*	*01/14/25 20:09*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**380**		49		mg/Kg		01/15/25 08:56	01/16/25 15:45	5
Motor Oil Range Organics [C28-C40]	**430**		250		mg/Kg		01/15/25 08:56	01/16/25 15:45	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*	*01/15/25 08:56*	*01/16/25 15:45*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**360**		60		mg/Kg		01/15/25 09:57	01/15/25 13:29	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Client Sample ID: BS24-50 5.0'
Date Collected: 01/10/25 13:35
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18358-5
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**18**		3.7		mg/Kg		01/14/25 16:23	01/14/25 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*203*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 20:31*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/14/25 16:23	01/14/25 20:31	1
Ethylbenzene	ND		0.037		mg/Kg		01/14/25 16:23	01/14/25 20:31	1
Toluene	ND		0.037		mg/Kg		01/14/25 16:23	01/14/25 20:31	1
Xylenes, Total	**0.13**		0.075		mg/Kg		01/14/25 16:23	01/14/25 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*48 - 145*	*01/14/25 16:23*	*01/14/25 20:31*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**280**		47		mg/Kg		01/15/25 08:56	01/16/25 15:56	5
Motor Oil Range Organics [C28-C40]	**420**		240		mg/Kg		01/15/25 08:56	01/16/25 15:56	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*	*01/15/25 08:56*	*01/16/25 15:56*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**250**		60		mg/Kg		01/15/25 09:57	01/15/25 13:39	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Client Sample ID: BS24-49 5.0'
Date Collected: 01/10/25 13:40
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18358-6
Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**20**		4.3		mg/Kg		01/14/25 16:23	01/14/25 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*196*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 20:53*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.022		mg/Kg		01/14/25 16:23	01/14/25 20:53	1
Ethylbenzene	ND		0.043		mg/Kg		01/14/25 16:23	01/14/25 20:53	1
Toluene	ND		0.043		mg/Kg		01/14/25 16:23	01/14/25 20:53	1
Xylenes, Total	**0.16**		0.087		mg/Kg		01/14/25 16:23	01/14/25 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*48 - 145*	*01/14/25 16:23*	*01/14/25 20:53*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**360**		50		mg/Kg		01/15/25 08:56	01/16/25 16:07	5
Motor Oil Range Organics [C28-C40]	**440**		250		mg/Kg		01/15/25 08:56	01/16/25 16:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*120*		*62 - 134*	*01/15/25 08:56*	*01/16/25 16:07*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**370**		60		mg/Kg		01/15/25 09:57	01/15/25 13:50	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Client Sample ID: BS24-51 5.0'

Date Collected: 01/10/25 13:45
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18358-7

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**21**		3.8		mg/Kg		01/14/25 16:23	01/14/25 21:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*220*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 21:15*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/14/25 16:23	01/14/25 21:15	1
Ethylbenzene	**0.044**		0.038		mg/Kg		01/14/25 16:23	01/14/25 21:15	1
Toluene	ND		0.038		mg/Kg		01/14/25 16:23	01/14/25 21:15	1
Xylenes, Total	**0.20**		0.077		mg/Kg		01/14/25 16:23	01/14/25 21:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*48 - 145*	*01/14/25 16:23*	*01/14/25 21:15*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**430**		46		mg/Kg		01/15/25 08:56	01/16/25 16:18	5
Motor Oil Range Organics [C28-C40]	**470**		230		mg/Kg		01/15/25 08:56	01/16/25 16:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*	*01/15/25 08:56*	*01/16/25 16:18*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**400**		60		mg/Kg		01/15/25 09:57	01/15/25 14:00	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Client Sample ID: BS24-52 5.0'

Date Collected: 01/10/25 13:50
Date Received: 01/14/25 15:25

Lab Sample ID: 885-18358-8

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**12**		3.9		mg/Kg		01/14/25 16:23	01/14/25 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*177*	*S1+*	*35 - 166*	*01/14/25 16:23*	*01/14/25 21:36*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		01/14/25 16:23	01/14/25 21:36	1
Ethylbenzene	ND		0.039		mg/Kg		01/14/25 16:23	01/14/25 21:36	1
Toluene	ND		0.039		mg/Kg		01/14/25 16:23	01/14/25 21:36	1
Xylenes, Total	**0.096**		0.078		mg/Kg		01/14/25 16:23	01/14/25 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*48 - 145*	*01/14/25 16:23*	*01/14/25 21:36*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**310**		46		mg/Kg		01/15/25 08:56	01/16/25 16:29	5
Motor Oil Range Organics [C28-C40]	**420**		230		mg/Kg		01/15/25 08:56	01/16/25 16:29	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*01/15/25 08:56*	*01/16/25 16:29*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**210**		60		mg/Kg		01/15/25 09:57	01/15/25 14:10	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19319/1-A
Matrix: Solid
Analysis Batch: 19345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19319

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/14/25 16:23	01/14/25 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*35 - 166*	*01/14/25 16:23*	*01/14/25 18:42*	*1*

Lab Sample ID: LCS 885-19319/2-A
Matrix: Solid
Analysis Batch: 19345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19319

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	20.2		mg/Kg		81	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*189*		*35 - 166*

Lab Sample ID: 885-18358-1 MS
Matrix: Solid
Analysis Batch: 19345

Client Sample ID: WS24-66 4-6'
Prep Type: Total/NA
Prep Batch: 19319

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	11		18.7	27.9		mg/Kg		93	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*343*	*S1+*	*35 - 166*

Lab Sample ID: 885-18358-1 MSD
Matrix: Solid
Analysis Batch: 19345

Client Sample ID: WS24-66 4-6'
Prep Type: Total/NA
Prep Batch: 19319

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	11		18.7	27.9		mg/Kg		93	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*328*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19319/1-A
Matrix: Solid
Analysis Batch: 19346

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19319

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/14/25 16:23	01/14/25 18:42	1
Ethylbenzene	ND		0.050		mg/Kg		01/14/25 16:23	01/14/25 18:42	1
Toluene	ND		0.050		mg/Kg		01/14/25 16:23	01/14/25 18:42	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-19319/1-A
Matrix: Solid
Analysis Batch: 19346

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19319

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/14/25 16:23	01/14/25 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*01/14/25 16:23*	*01/14/25 18:42*	*1*

Lab Sample ID: LCS 885-19319/3-A
Matrix: Solid
Analysis Batch: 19346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19319

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.942		mg/Kg		94	70 - 130		
Ethylbenzene			1.00	0.974		mg/Kg		97	70 - 130		
m&p-Xylene			2.00	1.92		mg/Kg		96	70 - 130		
o-Xylene			1.00	0.973		mg/Kg		97	70 - 130		
Toluene			1.00	0.958		mg/Kg		96	70 - 130		
Xylenes, Total			3.00	2.90		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*48 - 145*

Lab Sample ID: 885-18358-2 MS
Matrix: Solid
Analysis Batch: 19346

Client Sample ID: WS24-67 4-9'
Prep Type: Total/NA
Prep Batch: 19319

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.741	0.644		mg/Kg		87	70 - 130		
Ethylbenzene	0.037		0.741	0.683		mg/Kg		87	70 - 130		
m&p-Xylene	0.14		1.48	1.42		mg/Kg		87	70 - 130		
o-Xylene	0.038		0.741	0.685		mg/Kg		87	70 - 130		
Toluene	ND		0.741	0.646		mg/Kg		87	70 - 130		
Xylenes, Total	0.17		2.22	2.11		mg/Kg		87	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*48 - 145*

Lab Sample ID: 885-18358-2 MSD
Matrix: Solid
Analysis Batch: 19346

Client Sample ID: WS24-67 4-9'
Prep Type: Total/NA
Prep Batch: 19319

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.741	0.629		mg/Kg		85	70 - 130	2	20
Ethylbenzene	0.037		0.741	0.682		mg/Kg		87	70 - 130	0	20
m&p-Xylene	0.14		1.48	1.39		mg/Kg		84	70 - 130	3	20
o-Xylene	0.038		0.741	0.676		mg/Kg		86	70 - 130	1	20
Toluene	ND		0.741	0.638		mg/Kg		86	70 - 130	1	20
Xylenes, Total	0.17		2.22	2.06		mg/Kg		85	70 - 130	2	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-18358-2 MSD
Matrix: Solid
Analysis Batch: 19346

Client Sample ID: WS24-67 4-9'
Prep Type: Total/NA
Prep Batch: 19319

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*48 - 145*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-19348/1-A
Matrix: Solid
Analysis Batch: 19352

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19348

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/15/25 09:57	01/15/25 11:10	1

Lab Sample ID: LCS 885-19348/2-A
Matrix: Solid
Analysis Batch: 19352

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19348

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	30.8		mg/Kg		103	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

GC VOA

Prep Batch: 19319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18358-1	WS24-66 4-6'	Total/NA	Solid	5035	
885-18358-2	WS24-67 4-9'	Total/NA	Solid	5035	
885-18358-3	WS24-68 4-5'	Total/NA	Solid	5035	
885-18358-4	BS24-48 5.0'	Total/NA	Solid	5035	
885-18358-5	BS24-50 5.0'	Total/NA	Solid	5035	
885-18358-6	BS24-49 5.0'	Total/NA	Solid	5035	
885-18358-7	BS24-51 5.0'	Total/NA	Solid	5035	
885-18358-8	BS24-52 5.0'	Total/NA	Solid	5035	
MB 885-19319/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19319/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19319/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-18358-1 MS	WS24-66 4-6'	Total/NA	Solid	5035	
885-18358-1 MSD	WS24-66 4-6'	Total/NA	Solid	5035	
885-18358-2 MS	WS24-67 4-9'	Total/NA	Solid	5035	
885-18358-2 MSD	WS24-67 4-9'	Total/NA	Solid	5035	

Analysis Batch: 19345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18358-1	WS24-66 4-6'	Total/NA	Solid	8015D	19319
885-18358-2	WS24-67 4-9'	Total/NA	Solid	8015D	19319
885-18358-3	WS24-68 4-5'	Total/NA	Solid	8015D	19319
885-18358-4	BS24-48 5.0'	Total/NA	Solid	8015D	19319
885-18358-5	BS24-50 5.0'	Total/NA	Solid	8015D	19319
885-18358-6	BS24-49 5.0'	Total/NA	Solid	8015D	19319
885-18358-7	BS24-51 5.0'	Total/NA	Solid	8015D	19319
885-18358-8	BS24-52 5.0'	Total/NA	Solid	8015D	19319
MB 885-19319/1-A	Method Blank	Total/NA	Solid	8015D	19319
LCS 885-19319/2-A	Lab Control Sample	Total/NA	Solid	8015D	19319
885-18358-1 MS	WS24-66 4-6'	Total/NA	Solid	8015D	19319
885-18358-1 MSD	WS24-66 4-6'	Total/NA	Solid	8015D	19319

Analysis Batch: 19346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18358-1	WS24-66 4-6'	Total/NA	Solid	8021B	19319
885-18358-2	WS24-67 4-9'	Total/NA	Solid	8021B	19319
885-18358-3	WS24-68 4-5'	Total/NA	Solid	8021B	19319
885-18358-4	BS24-48 5.0'	Total/NA	Solid	8021B	19319
885-18358-5	BS24-50 5.0'	Total/NA	Solid	8021B	19319
885-18358-6	BS24-49 5.0'	Total/NA	Solid	8021B	19319
885-18358-7	BS24-51 5.0'	Total/NA	Solid	8021B	19319
885-18358-8	BS24-52 5.0'	Total/NA	Solid	8021B	19319
MB 885-19319/1-A	Method Blank	Total/NA	Solid	8021B	19319
LCS 885-19319/3-A	Lab Control Sample	Total/NA	Solid	8021B	19319
885-18358-2 MS	WS24-67 4-9'	Total/NA	Solid	8021B	19319
885-18358-2 MSD	WS24-67 4-9'	Total/NA	Solid	8021B	19319

GC Semi VOA

Analysis Batch: 19335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18358-1	WS24-66 4-6'	Total/NA	Solid	8015D	19338

QC Association Summary

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

GC Semi VOA (Continued)

Analysis Batch: 19335 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18358-2	WS24-67 4-9'	Total/NA	Solid	8015D	19338
885-18358-3	WS24-68 4-5'	Total/NA	Solid	8015D	19338
885-18358-4	BS24-48 5.0'	Total/NA	Solid	8015D	19338
885-18358-5	BS24-50 5.0'	Total/NA	Solid	8015D	19338
885-18358-6	BS24-49 5.0'	Total/NA	Solid	8015D	19338
885-18358-7	BS24-51 5.0'	Total/NA	Solid	8015D	19338
885-18358-8	BS24-52 5.0'	Total/NA	Solid	8015D	19338

Prep Batch: 19338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18358-1	WS24-66 4-6'	Total/NA	Solid	SHAKE	
885-18358-2	WS24-67 4-9'	Total/NA	Solid	SHAKE	
885-18358-3	WS24-68 4-5'	Total/NA	Solid	SHAKE	
885-18358-4	BS24-48 5.0'	Total/NA	Solid	SHAKE	
885-18358-5	BS24-50 5.0'	Total/NA	Solid	SHAKE	
885-18358-6	BS24-49 5.0'	Total/NA	Solid	SHAKE	
885-18358-7	BS24-51 5.0'	Total/NA	Solid	SHAKE	
885-18358-8	BS24-52 5.0'	Total/NA	Solid	SHAKE	

HPLC/IC

Prep Batch: 19348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18358-1	WS24-66 4-6'	Total/NA	Solid	300_Prep	
885-18358-2	WS24-67 4-9'	Total/NA	Solid	300_Prep	
885-18358-3	WS24-68 4-5'	Total/NA	Solid	300_Prep	
885-18358-4	BS24-48 5.0'	Total/NA	Solid	300_Prep	
885-18358-5	BS24-50 5.0'	Total/NA	Solid	300_Prep	
885-18358-6	BS24-49 5.0'	Total/NA	Solid	300_Prep	
885-18358-7	BS24-51 5.0'	Total/NA	Solid	300_Prep	
885-18358-8	BS24-52 5.0'	Total/NA	Solid	300_Prep	
MB 885-19348/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19348/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18358-1	WS24-66 4-6'	Total/NA	Solid	300.0	19348
885-18358-2	WS24-67 4-9'	Total/NA	Solid	300.0	19348
885-18358-3	WS24-68 4-5'	Total/NA	Solid	300.0	19348
885-18358-4	BS24-48 5.0'	Total/NA	Solid	300.0	19348
885-18358-5	BS24-50 5.0'	Total/NA	Solid	300.0	19348
885-18358-6	BS24-49 5.0'	Total/NA	Solid	300.0	19348
885-18358-7	BS24-51 5.0'	Total/NA	Solid	300.0	19348
885-18358-8	BS24-52 5.0'	Total/NA	Solid	300.0	19348
MB 885-19348/1-A	Method Blank	Total/NA	Solid	300.0	19348
LCS 885-19348/2-A	Lab Control Sample	Total/NA	Solid	300.0	19348

Lab Chronicle

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18358-1

Client Sample ID: WS24-66 4-6'
Lab Sample ID: 885-18358-1
Date Collected: 01/10/25 10:30
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 19:04
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 19:04
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/16/25 15:13
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 12:37

Client Sample ID: WS24-67 4-9'
Lab Sample ID: 885-18358-2
Date Collected: 01/10/25 10:40
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 19:26
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 19:26
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/16/25 15:24
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 12:48

Client Sample ID: WS24-68 4-5'
Lab Sample ID: 885-18358-3
Date Collected: 01/10/25 10:50
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 19:48
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 19:48
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/16/25 15:34
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 12:58

Client Sample ID: BS24-48 5.0'
Lab Sample ID: 885-18358-4
Date Collected: 01/10/25 13:30
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 20:09

Lab Chronicle

Client: Vertex
Job ID: 885-18358-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-48 5.0'
Lab Sample ID: 885-18358-4
Date Collected: 01/10/25 13:30
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 20:09
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/16/25 15:45
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 13:29

Client Sample ID: BS24-50 5.0'
Lab Sample ID: 885-18358-5
Date Collected: 01/10/25 13:35
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 20:31
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 20:31
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/16/25 15:56
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 13:39

Client Sample ID: BS24-49 5.0'
Lab Sample ID: 885-18358-6
Date Collected: 01/10/25 13:40
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 20:53
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 20:53
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/16/25 16:07
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 13:50

Client Sample ID: BS24-51 5.0'
Lab Sample ID: 885-18358-7
Date Collected: 01/10/25 13:45
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 21:15
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 21:15

Lab Chronicle

Client: Vertex
Job ID: 885-18358-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-51 5.0'
Lab Sample ID: 885-18358-7
Date Collected: 01/10/25 13:45
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/16/25 16:18
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 14:00

Client Sample ID: BS24-52 5.0'
Lab Sample ID: 885-18358-8
Date Collected: 01/10/25 13:50
Matrix: Solid
Date Received: 01/14/25 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8015D		1	19345	AT	EET ALB	01/14/25 21:36
Total/NA	Prep	5035			19319	AT	EET ALB	01/14/25 16:23
Total/NA	Analysis	8021B		1	19346	AT	EET ALB	01/14/25 21:36
Total/NA	Prep	SHAKE			19338	MI	EET ALB	01/15/25 08:56
Total/NA	Analysis	8015D		5	19335	EM	EET ALB	01/16/25 16:29
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 14:10

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18358-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr.
Carlsbad, NM 88220

Phone #: 575.725.5001

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24 hr

Project Name:
Endurance Lariat Water Line

Project #:
24E-03247

Project Manager:
Chance Dixon

Sampler: AL
On Ice: ☒ Yes ☐ No
# of Coolers: 1 MOS
Cooler Temp(including CF): 3.3+0.2=3.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABO
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 8
Tel. 505-345-3975 Fax 505-345-410.

885-18358 COC

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
01.10.25	1030	Soil	WS24-66 4-6'	4oz	ICE	1										
	1040		WS24-67 4-9'			2										
	1050		WS24-68 4-5'			3										
	1330		BS24-48 5.0'			4										
	1335		BS24-50 5.0'			5										
	1340		BS24-49 5.0'			6										
	1345		BS24-51 5.0'			7										
	1350		BS24-52 5.0'			8										

Date	Time	Relinquished by	Received by	Via	Date	Time
1/8/25	800				1/13/25	800
1/13/25	1900		SCM	COURIER	1/14/25	1525

Remarks: Bill to Solaris (Rob Kirk)
cc: CDixon@vertexresource.com
ALudvik@vertexresource.com
Katrina.Taylor@vertexresource.com

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

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18358-1

Login Number: 18358 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: McQuiston, Steven

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/17/2025 9:04:01 AM

JOB DESCRIPTION

Endurance Line Lariat

JOB NUMBER

885-18377-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/17/2025 9:04:01 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Line Lariat

Laboratory Job ID: 885-18377-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Line Lariat

Job ID: 885-18377-1

Job ID: 885-18377-1 Eurofins Albuquerque

Job Narrative
885-18377-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/15/2025 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

Gasoline Range Organics
Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: WS 24-64 5-8' (885-18377-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: WS 25-77 5-6 (885-18377-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: WS 24-70 0-4' (885-18377-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following sample was outside control limits: BS 24-29 7' (885-18377-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following samples were outside control limits: (885-18377-B-1-B MS) and (885-18377-B-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015D_DRO: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 885-19356 and analytical batch 885-19335 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: BS 24-29 7'
Lab Sample ID: 885-18377-1
Date Collected: 01/13/25 09:00
Matrix: Solid
Date Received: 01/15/25 08:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	18		3.8		mg/Kg		01/15/25 09:05	01/15/25 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*185*	*S1+*	*35 - 166*	*01/15/25 09:05*	*01/15/25 15:09*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/15/25 09:05	01/15/25 15:09	1
Ethylbenzene	0.15		0.038		mg/Kg		01/15/25 09:05	01/15/25 15:09	1
Toluene	0.054		0.038		mg/Kg		01/15/25 09:05	01/15/25 15:09	1
Xylenes, Total	0.98		0.077		mg/Kg		01/15/25 09:05	01/15/25 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*48 - 145*	*01/15/25 09:05*	*01/15/25 15:09*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	210	F2	9.8		mg/Kg		01/15/25 10:50	01/16/25 17:56	1
Motor Oil Range Organics [C28-C40]	100		49		mg/Kg		01/15/25 10:50	01/16/25 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*01/15/25 10:50*	*01/16/25 17:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		60		mg/Kg		01/15/25 09:57	01/15/25 15:02	20

Client Sample Results

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: BS 24-25 8'
Lab Sample ID: 885-18377-2
Date Collected: 01/13/25 09:30
Matrix: Solid
Date Received: 01/15/25 08:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	11		4.6		mg/Kg		01/15/25 09:05	01/15/25 14:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*151*		*35 - 166*	*01/15/25 09:05*	*01/15/25 14:45*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		01/15/25 09:05	01/15/25 14:45	1
Ethylbenzene	0.10		0.046		mg/Kg		01/15/25 09:05	01/15/25 14:45	1
Toluene	ND		0.046		mg/Kg		01/15/25 09:05	01/15/25 14:45	1
Xylenes, Total	0.70		0.093		mg/Kg		01/15/25 09:05	01/15/25 14:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*48 - 145*	*01/15/25 09:05*	*01/15/25 14:45*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	140		10		mg/Kg		01/15/25 10:50	01/16/25 18:27	1
Motor Oil Range Organics [C28-C40]	110		50		mg/Kg		01/15/25 10:50	01/16/25 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*01/15/25 10:50*	*01/16/25 18:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		60		mg/Kg		01/15/25 09:57	01/15/25 15:33	20

Client Sample Results

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: BS 24-39 7'
Lab Sample ID: 885-18377-3
Date Collected: 01/13/25 10:00
Matrix: Solid
Date Received: 01/15/25 08:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	12		3.7		mg/Kg		01/15/25 09:05	01/15/25 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*154*		*35 - 166*	*01/15/25 09:05*	*01/15/25 11:59*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/15/25 09:05	01/15/25 11:59	1
Ethylbenzene	0.076		0.037		mg/Kg		01/15/25 09:05	01/15/25 11:59	1
Toluene	0.038		0.037		mg/Kg		01/15/25 09:05	01/15/25 11:59	1
Xylenes, Total	0.50		0.075		mg/Kg		01/15/25 09:05	01/15/25 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*48 - 145*	*01/15/25 09:05*	*01/15/25 11:59*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	160		9.7		mg/Kg		01/15/25 10:50	01/16/25 18:38	1
Motor Oil Range Organics [C28-C40]	98		48		mg/Kg		01/15/25 10:50	01/16/25 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*01/15/25 10:50*	*01/16/25 18:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		60		mg/Kg		01/15/25 09:57	01/15/25 15:44	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Client Sample ID: WS 24-64 5-8'

Date Collected: 01/13/25 10:30
Date Received: 01/15/25 08:00

Lab Sample ID: 885-18377-4

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**20**		3.6		mg/Kg		01/15/25 09:05	01/15/25 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*184*	*S1+*	*35 - 166*	*01/15/25 09:05*	*01/15/25 12:23*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/15/25 09:05	01/15/25 12:23	1
Ethylbenzene	**0.14**		0.036		mg/Kg		01/15/25 09:05	01/15/25 12:23	1
Toluene	**0.047**		0.036		mg/Kg		01/15/25 09:05	01/15/25 12:23	1
Xylenes, Total	**0.96**		0.072		mg/Kg		01/15/25 09:05	01/15/25 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*48 - 145*	*01/15/25 09:05*	*01/15/25 12:23*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**410**		9.6		mg/Kg		01/15/25 10:50	01/16/25 18:49	1
Motor Oil Range Organics [C28-C40]	**240**		48		mg/Kg		01/15/25 10:50	01/16/25 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*01/15/25 10:50*	*01/16/25 18:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**310**		60		mg/Kg		01/15/25 09:57	01/15/25 15:54	20

Client Sample Results

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: WS 24-70 0-4'
Lab Sample ID: 885-18377-5
Date Collected: 01/13/25 11:00
Matrix: Solid
Date Received: 01/15/25 08:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	22		3.9		mg/Kg		01/15/25 09:05	01/15/25 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*186*	*S1+*	*35 - 166*	*01/15/25 09:05*	*01/15/25 15:57*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		01/15/25 09:05	01/15/25 15:57	1
Ethylbenzene	0.20		0.039		mg/Kg		01/15/25 09:05	01/15/25 15:57	1
Toluene	0.12		0.039		mg/Kg		01/15/25 09:05	01/15/25 15:57	1
Xylenes, Total	1.3		0.079		mg/Kg		01/15/25 09:05	01/15/25 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*48 - 145*	*01/15/25 09:05*	*01/15/25 15:57*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	310		10		mg/Kg		01/15/25 10:50	01/16/25 18:59	1
Motor Oil Range Organics [C28-C40]	170		50		mg/Kg		01/15/25 10:50	01/16/25 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*01/15/25 10:50*	*01/16/25 18:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	680		60		mg/Kg		01/15/25 09:57	01/15/25 16:04	20

Client Sample Results

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: WS 24-71 4-6'
Lab Sample ID: 885-18377-6
Date Collected: 01/13/25 11:30
Matrix: Solid
Date Received: 01/15/25 08:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**9.4**		3.8		mg/Kg		01/15/25 09:05	01/15/25 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*146*		*35 - 166*	*01/15/25 09:05*	*01/15/25 13:10*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/15/25 09:05	01/15/25 13:10	1
Ethylbenzene	**0.058**		0.038		mg/Kg		01/15/25 09:05	01/15/25 13:10	1
Toluene	ND		0.038		mg/Kg		01/15/25 09:05	01/15/25 13:10	1
Xylenes, Total	**0.38**		0.075		mg/Kg		01/15/25 09:05	01/15/25 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*48 - 145*	*01/15/25 09:05*	*01/15/25 13:10*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**140**		9.9		mg/Kg		01/15/25 10:50	01/16/25 19:10	1
Motor Oil Range Organics [C28-C40]	**92**		50		mg/Kg		01/15/25 10:50	01/16/25 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*114*		*62 - 134*	*01/15/25 10:50*	*01/16/25 19:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**		60		mg/Kg		01/15/25 09:57	01/15/25 16:15	20

Client Sample Results

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: WS 25-76 6-7'
Lab Sample ID: 885-18377-7
Date Collected: 01/13/25 12:00
Matrix: Solid
Date Received: 01/15/25 08:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**8.1**		4.3		mg/Kg		01/15/25 09:05	01/15/25 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*142*		*35 - 166*	*01/15/25 09:05*	*01/15/25 13:34*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg		01/15/25 09:05	01/15/25 13:34	1
Ethylbenzene	**0.056**		0.043		mg/Kg		01/15/25 09:05	01/15/25 13:34	1
Toluene	ND		0.043		mg/Kg		01/15/25 09:05	01/15/25 13:34	1
Xylenes, Total	**0.37**		0.085		mg/Kg		01/15/25 09:05	01/15/25 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*48 - 145*	*01/15/25 09:05*	*01/15/25 13:34*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**51**		9.6		mg/Kg		01/15/25 10:50	01/16/25 19:21	1
Motor Oil Range Organics [C28-C40]	**63**		48		mg/Kg		01/15/25 10:50	01/16/25 19:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*01/15/25 10:50*	*01/16/25 19:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/15/25 09:57	01/15/25 16:25	20

Client Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Client Sample ID: WS 25-77 5-6

Date Collected: 01/13/25 12:30
Date Received: 01/15/25 08:00

Lab Sample ID: 885-18377-8

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	19		3.5		mg/Kg		01/15/25 09:05	01/15/25 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*179*	*S1+*	*35 - 166*	*01/15/25 09:05*	*01/15/25 13:58*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/15/25 09:05	01/15/25 13:58	1
Ethylbenzene	0.14		0.035		mg/Kg		01/15/25 09:05	01/15/25 13:58	1
Toluene	0.060		0.035		mg/Kg		01/15/25 09:05	01/15/25 13:58	1
Xylenes, Total	0.98		0.071		mg/Kg		01/15/25 09:05	01/15/25 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*48 - 145*	*01/15/25 09:05*	*01/15/25 13:58*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	470		9.9		mg/Kg		01/15/25 10:50	01/16/25 19:31	1
Motor Oil Range Organics [C28-C40]	240		49		mg/Kg		01/15/25 10:50	01/16/25 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*116*		*62 - 134*	*01/15/25 10:50*	*01/16/25 19:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	280	F2	60		mg/Kg		01/15/25 12:08	01/15/25 15:19	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19339/1-A
Matrix: Solid
Analysis Batch: 19336

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19339

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/15/25 09:05	01/15/25 10:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/15/25 09:05*	*01/15/25 10:48*	*1*

Lab Sample ID: LCS 885-19339/2-A
Matrix: Solid
Analysis Batch: 19336

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19339

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.4		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*197*		*35 - 166*

Lab Sample ID: 885-18377-1 MS
Matrix: Solid
Analysis Batch: 19336

Client Sample ID: BS 24-29 7'
Prep Type: Total/NA
Prep Batch: 19339

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	18		19.2	39.9		mg/Kg		115	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*297*	*S1+*	*35 - 166*

Lab Sample ID: 885-18377-1 MSD
Matrix: Solid
Analysis Batch: 19336

Client Sample ID: BS 24-29 7'
Prep Type: Total/NA
Prep Batch: 19339

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	18		19.2	37.4		mg/Kg		102	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*300*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19339/1-A
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19339

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/15/25 09:05	01/15/25 10:48	1
Ethylbenzene	ND		0.050		mg/Kg		01/15/25 09:05	01/15/25 10:48	1
Toluene	ND		0.050		mg/Kg		01/15/25 09:05	01/15/25 10:48	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-19339/1-A
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19339

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/15/25 09:05	01/15/25 10:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*48 - 145*	*01/15/25 09:05*	*01/15/25 10:48*	*1*

Lab Sample ID: LCS 885-19339/3-A
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19339

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.08		mg/Kg		108	70 - 130		
Ethylbenzene			1.00	1.10		mg/Kg		110	70 - 130		
m&p-Xylene			2.00	2.16		mg/Kg		108	70 - 130		
o-Xylene			1.00	1.08		mg/Kg		108	70 - 130		
Toluene			1.00	1.09		mg/Kg		109	70 - 130		
Xylenes, Total			3.00	3.24		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*48 - 145*

Lab Sample ID: 885-18377-2 MS
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: BS 24-25 8'
Prep Type: Total/NA
Prep Batch: 19339

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.927	1.03		mg/Kg		111	70 - 130		
Ethylbenzene	0.10		0.927	1.18		mg/Kg		116	70 - 130		
m&p-Xylene	0.48		1.85	2.60		mg/Kg		114	70 - 130		
o-Xylene	0.21		0.927	1.26		mg/Kg		113	70 - 130		
Toluene	ND		0.927	1.09		mg/Kg		114	70 - 130		
Xylenes, Total	0.70		2.78	3.86		mg/Kg		114	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*48 - 145*

Lab Sample ID: 885-18377-2 MSD
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: BS 24-25 8'
Prep Type: Total/NA
Prep Batch: 19339

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.927	1.00		mg/Kg		108	70 - 130	3	20
Ethylbenzene	0.10		0.927	1.15		mg/Kg		113	70 - 130	2	20
m&p-Xylene	0.48		1.85	2.55		mg/Kg		111	70 - 130	2	20
o-Xylene	0.21		0.927	1.23		mg/Kg		110	70 - 130	2	20
Toluene	ND		0.927	1.06		mg/Kg		110	70 - 130	3	20
Xylenes, Total	0.70		2.78	3.78		mg/Kg		111	70 - 130	2	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-18377-2 MSD
Matrix: Solid
Analysis Batch: 19337

Client Sample ID: BS 24-25 8'
Prep Type: Total/NA
Prep Batch: 19339

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*118*		*48 - 145*

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-19356/1-A
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19356

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/15/25 10:50	01/16/25 17:34	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/15/25 10:50	01/16/25 17:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*01/15/25 10:50*	*01/16/25 17:34*	*1*

Lab Sample ID: LCS 885-19356/2-A
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19356

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	59.2		mg/Kg		118	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*

Lab Sample ID: 885-18377-1 MS
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: BS 24-29 7'
Prep Type: Total/NA
Prep Batch: 19356

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	210	F2	48.9	429	4	mg/Kg		452	44 - 136		

Surrogate	MS %Recovery	MS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*132*		*62 - 134*

Lab Sample ID: 885-18377-1 MSD
Matrix: Solid
Analysis Batch: 19335

Client Sample ID: BS 24-29 7'
Prep Type: Total/NA
Prep Batch: 19356

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	210	F2	47.1	273	4 F2	mg/Kg		138	44 - 136	44	32

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-19348/1-A
Matrix: Solid
Analysis Batch: 19352

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19348

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/15/25 09:57	01/15/25 11:10	1

Lab Sample ID: LCS 885-19348/2-A
Matrix: Solid
Analysis Batch: 19352

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19348

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	30.8		mg/Kg		103	90 - 110		

Lab Sample ID: MB 885-19363/1-A
Matrix: Solid
Analysis Batch: 19342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19363

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/15/25 12:08	01/15/25 15:00	1

Lab Sample ID: LCS 885-19363/2-A
Matrix: Solid
Analysis Batch: 19342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19363

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.1		mg/Kg		94	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

GC VOA

Analysis Batch: 19336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	8015D	19339
885-18377-2	BS 24-25 8'	Total/NA	Solid	8015D	19339
885-18377-3	BS 24-39 7'	Total/NA	Solid	8015D	19339
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	8015D	19339
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	8015D	19339
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	8015D	19339
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	8015D	19339
885-18377-8	WS 25-77 5-6	Total/NA	Solid	8015D	19339
MB 885-19339/1-A	Method Blank	Total/NA	Solid	8015D	19339
LCS 885-19339/2-A	Lab Control Sample	Total/NA	Solid	8015D	19339
885-18377-1 MS	BS 24-29 7'	Total/NA	Solid	8015D	19339
885-18377-1 MSD	BS 24-29 7'	Total/NA	Solid	8015D	19339

Analysis Batch: 19337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	8021B	19339
885-18377-2	BS 24-25 8'	Total/NA	Solid	8021B	19339
885-18377-3	BS 24-39 7'	Total/NA	Solid	8021B	19339
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	8021B	19339
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	8021B	19339
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	8021B	19339
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	8021B	19339
885-18377-8	WS 25-77 5-6	Total/NA	Solid	8021B	19339
MB 885-19339/1-A	Method Blank	Total/NA	Solid	8021B	19339
LCS 885-19339/3-A	Lab Control Sample	Total/NA	Solid	8021B	19339
885-18377-2 MS	BS 24-25 8'	Total/NA	Solid	8021B	19339
885-18377-2 MSD	BS 24-25 8'	Total/NA	Solid	8021B	19339

Prep Batch: 19339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	5035	
885-18377-2	BS 24-25 8'	Total/NA	Solid	5035	
885-18377-3	BS 24-39 7'	Total/NA	Solid	5035	
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	5035	
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	5035	
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	5035	
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	5035	
885-18377-8	WS 25-77 5-6	Total/NA	Solid	5035	
MB 885-19339/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19339/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19339/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-18377-1 MS	BS 24-29 7'	Total/NA	Solid	5035	
885-18377-1 MSD	BS 24-29 7'	Total/NA	Solid	5035	
885-18377-2 MS	BS 24-25 8'	Total/NA	Solid	5035	
885-18377-2 MSD	BS 24-25 8'	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 19335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	8015M/D	19356

QC Association Summary

Client: Vertex
Project/Site: Endurance Line Lariat

Job ID: 885-18377-1

GC Semi VOA (Continued)

Analysis Batch: 19335 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-2	BS 24-25 8'	Total/NA	Solid	8015M/D	19356
885-18377-3	BS 24-39 7'	Total/NA	Solid	8015M/D	19356
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	8015M/D	19356
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	8015M/D	19356
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	8015M/D	19356
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	8015M/D	19356
885-18377-8	WS 25-77 5-6	Total/NA	Solid	8015M/D	19356
MB 885-19356/1-A	Method Blank	Total/NA	Solid	8015M/D	19356
LCS 885-19356/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	19356
885-18377-1 MS	BS 24-29 7'	Total/NA	Solid	8015M/D	19356
885-18377-1 MSD	BS 24-29 7'	Total/NA	Solid	8015M/D	19356

Prep Batch: 19356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	SHAKE	
885-18377-2	BS 24-25 8'	Total/NA	Solid	SHAKE	
885-18377-3	BS 24-39 7'	Total/NA	Solid	SHAKE	
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	SHAKE	
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	SHAKE	
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	SHAKE	
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	SHAKE	
885-18377-8	WS 25-77 5-6	Total/NA	Solid	SHAKE	
MB 885-19356/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-19356/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-18377-1 MS	BS 24-29 7'	Total/NA	Solid	SHAKE	
885-18377-1 MSD	BS 24-29 7'	Total/NA	Solid	SHAKE	

HPLC/IC

Analysis Batch: 19342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-8	WS 25-77 5-6	Total/NA	Solid	300.0	19363
MB 885-19363/1-A	Method Blank	Total/NA	Solid	300.0	19363
LCS 885-19363/2-A	Lab Control Sample	Total/NA	Solid	300.0	19363

Prep Batch: 19348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	300_Prep	
885-18377-2	BS 24-25 8'	Total/NA	Solid	300_Prep	
885-18377-3	BS 24-39 7'	Total/NA	Solid	300_Prep	
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	300_Prep	
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	300_Prep	
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	300_Prep	
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	300_Prep	
MB 885-19348/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19348/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-1	BS 24-29 7'	Total/NA	Solid	300.0	19348
885-18377-2	BS 24-25 8'	Total/NA	Solid	300.0	19348

QC Association Summary

Client: Vertex Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

HPLC/IC (Continued)

Analysis Batch: 19352 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-3	BS 24-39 7'	Total/NA	Solid	300.0	19348
885-18377-4	WS 24-64 5-8'	Total/NA	Solid	300.0	19348
885-18377-5	WS 24-70 0-4'	Total/NA	Solid	300.0	19348
885-18377-6	WS 24-71 4-6'	Total/NA	Solid	300.0	19348
885-18377-7	WS 25-76 6-7'	Total/NA	Solid	300.0	19348
MB 885-19348/1-A	Method Blank	Total/NA	Solid	300.0	19348
LCS 885-19348/2-A	Lab Control Sample	Total/NA	Solid	300.0	19348

Prep Batch: 19363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18377-8	WS 25-77 5-6	Total/NA	Solid	300_Prep	
MB 885-19363/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19363/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Lab Chronicle

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: BS 24-29 7'
Lab Sample ID: 885-18377-1
Date Collected: 01/13/25 09:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 15:09
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 15:09
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 17:56
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 15:02

Client Sample ID: BS 24-25 8'
Lab Sample ID: 885-18377-2
Date Collected: 01/13/25 09:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 14:45
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 14:45
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 18:27
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 15:33

Client Sample ID: BS 24-39 7'
Lab Sample ID: 885-18377-3
Date Collected: 01/13/25 10:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 11:59
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 11:59
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 18:38
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 15:44

Client Sample ID: WS 24-64 5-8'
Lab Sample ID: 885-18377-4
Date Collected: 01/13/25 10:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 12:23

Lab Chronicle

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: WS 24-64 5-8'
Lab Sample ID: 885-18377-4
Date Collected: 01/13/25 10:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 12:23
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 18:49
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 15:54

Client Sample ID: WS 24-70 0-4'
Lab Sample ID: 885-18377-5
Date Collected: 01/13/25 11:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 15:57
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 15:57
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 18:59
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 16:04

Client Sample ID: WS 24-71 4-6'
Lab Sample ID: 885-18377-6
Date Collected: 01/13/25 11:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 13:10
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 13:10
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 19:10
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 16:15

Client Sample ID: WS 25-76 6-7'
Lab Sample ID: 885-18377-7
Date Collected: 01/13/25 12:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 13:34
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 13:34

Lab Chronicle

Client: Vertex
Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Client Sample ID: WS 25-76 6-7'
Lab Sample ID: 885-18377-7
Date Collected: 01/13/25 12:00
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 19:21
Total/NA	Prep	300_Prep			19348	JT	EET ALB	01/15/25 09:57
Total/NA	Analysis	300.0		20	19352	RC	EET ALB	01/15/25 16:25

Client Sample ID: WS 25-77 5-6
Lab Sample ID: 885-18377-8
Date Collected: 01/13/25 12:30
Matrix: Solid
Date Received: 01/15/25 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8015D		1	19336	JP	EET ALB	01/15/25 13:58
Total/NA	Prep	5035			19339	JP	EET ALB	01/15/25 09:05
Total/NA	Analysis	8021B		1	19337	JP	EET ALB	01/15/25 13:58
Total/NA	Prep	SHAKE			19356	MI	EET ALB	01/15/25 10:50
Total/NA	Analysis	8015M/D		1	19335	EM	EET ALB	01/16/25 19:31
Total/NA	Prep	300_Prep			19363	JT	EET ALB	01/15/25 12:08
Total/NA	Analysis	300.0		20	19342	JT	EET ALB	01/15/25 15:19

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18377-1
Project/Site: Endurance Line Lariat

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: ~~Enadh~~ Vertex
bill to Solaris
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 24 Hour
Project Name: Endurance Ine lariat
Project #: 24E-03247
Project Manager: Cdixon@vertexca.
Chance dixon
Sampler:
On Ice: ☒ Yes ☐ No
# of Coolers: mod
Cooler Temp(including CF): 1.5-0.2 = 1.3 (°C)

HALL ENVIRONM ANALYSIS LABOI
885-18377 COC
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.	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)
1113/25	9:00	Soil	BS24-29 7'	Soil	Ice		X	X					X			
	9:30		BS24-25 8'													
	10:00		BS24-39 7'													
	10:30		~~BS~~WS24-64 5-8'													
	11:00		WS24-70 0-4'													
	11:30		WS24-71 4-6'													
	~~12:00~~		~~WS24-76 6-7'~~													
	~~12:30~~		~~WS24-77 5-6'~~													
	12:00		WS25-76 6-7'													
	12 30		WS25-77 5-6'													

Date	Time	Relinquished by	Received by	Via	Date	Time
1/13	5:00	Katrina Taylor			1/14/25	1215
1/14/25	1910			courier	1/15/25	8:00

Remarks: Bill to Vertex Solaris
ATTN. Rob Kirk (rob.kirk@arswater.com
CC. Cdixon@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18377-1

Login Number: 18377 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Alderette, Joseph

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/22/2025 4:48:35 PM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-18631-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/22/2025 4:48:35 PM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-18631-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18631-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-18631-1

Job ID: 885-18631-1 Eurofins Albuquerque

Job Narrative
885-18631-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/18/2025 8:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18631-1

Client Sample ID: WS25-78 4'-8'

Date Collected: 01/15/25 09:00
Date Received: 01/18/25 08:15

Lab Sample ID: 885-18631-1

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.3		mg/Kg		01/20/25 10:01	01/21/25 03:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*35 - 166*	*01/20/25 10:01*	*01/21/25 03:25*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/20/25 10:01	01/21/25 03:25	1
Ethylbenzene	ND		0.033		mg/Kg		01/20/25 10:01	01/21/25 03:25	1
Toluene	ND		0.033		mg/Kg		01/20/25 10:01	01/21/25 03:25	1
Xylenes, Total	ND		0.066		mg/Kg		01/20/25 10:01	01/21/25 03:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*	*01/20/25 10:01*	*01/21/25 03:25*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**240**		9.8		mg/Kg		01/20/25 10:11	01/20/25 14:13	1
Motor Oil Range Organics [C28-C40]	**150**		49		mg/Kg		01/20/25 10:11	01/20/25 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*109*		*62 - 134*	*01/20/25 10:11*	*01/20/25 14:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**260**		60		mg/Kg		01/20/25 11:55	01/20/25 15:32	20

Client Sample Results

Client: Vertex
Job ID: 885-18631-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS25-79 5.5'-8'
Lab Sample ID: 885-18631-2
Date Collected: 01/15/25 09:30
Matrix: Solid
Date Received: 01/18/25 08:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.7		mg/Kg		01/20/25 10:01	01/21/25 03:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/20/25 10:01*	*01/21/25 03:49*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/20/25 10:01	01/21/25 03:49	1
Ethylbenzene	ND		0.037		mg/Kg		01/20/25 10:01	01/21/25 03:49	1
Toluene	ND		0.037		mg/Kg		01/20/25 10:01	01/21/25 03:49	1
Xylenes, Total	ND		0.074		mg/Kg		01/20/25 10:01	01/21/25 03:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*	*01/20/25 10:01*	*01/21/25 03:49*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**68**		9.6		mg/Kg		01/20/25 10:11	01/20/25 14:46	1
Motor Oil Range Organics [C28-C40]	**85**		48		mg/Kg		01/20/25 10:11	01/20/25 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*86*		*62 - 134*	*01/20/25 10:11*	*01/20/25 14:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**82**		60		mg/Kg		01/20/25 11:55	01/20/25 15:43	20

Client Sample Results

Client: Vertex
Job ID: 885-18631-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS25-80 5.5'-7'
Lab Sample ID: 885-18631-3
Date Collected: 01/15/25 10:00
Matrix: Solid
Date Received: 01/18/25 08:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.7		mg/Kg		01/20/25 10:01	01/21/25 04:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/20/25 10:01*	*01/21/25 04:13*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/20/25 10:01	01/21/25 04:13	1
Ethylbenzene	ND		0.037		mg/Kg		01/20/25 10:01	01/21/25 04:13	1
Toluene	ND		0.037		mg/Kg		01/20/25 10:01	01/21/25 04:13	1
Xylenes, Total	ND		0.074		mg/Kg		01/20/25 10:01	01/21/25 04:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*01/20/25 10:01*	*01/21/25 04:13*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**260**		9.4		mg/Kg		01/20/25 10:11	01/20/25 15:28	1
Motor Oil Range Organics [C28-C40]	**160**		47		mg/Kg		01/20/25 10:11	01/20/25 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*114*		*62 - 134*	*01/20/25 10:11*	*01/20/25 15:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		60		mg/Kg		01/20/25 11:55	01/20/25 15:53	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18631-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19538/1-A
Matrix: Solid
Analysis Batch: 19567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19538

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/20/25 10:01	01/20/25 22:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*01/20/25 10:01*	*01/20/25 22:41*	*1*

Lab Sample ID: LCS 885-19538/2-A
Matrix: Solid
Analysis Batch: 19567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19538

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	21.4		mg/Kg		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*196*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19538/1-A
Matrix: Solid
Analysis Batch: 19566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19538

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/20/25 10:01	01/20/25 22:41	1
Ethylbenzene	ND		0.050		mg/Kg		01/20/25 10:01	01/20/25 22:41	1
Toluene	ND		0.050		mg/Kg		01/20/25 10:01	01/20/25 22:41	1
Xylenes, Total	ND		0.10		mg/Kg		01/20/25 10:01	01/20/25 22:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*01/20/25 10:01*	*01/20/25 22:41*	*1*

Lab Sample ID: LCS 885-19538/3-A
Matrix: Solid
Analysis Batch: 19566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19538

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.05		mg/Kg		105	70 - 130		
Ethylbenzene			1.00	1.05		mg/Kg		105	70 - 130		
m&p-Xylene			2.00	2.07		mg/Kg		104	70 - 130		
o-Xylene			1.00	1.03		mg/Kg		103	70 - 130		
Toluene			1.00	1.08		mg/Kg		108	70 - 130		
Xylenes, Total			3.00	3.10		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18631-1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-19539/1-A
Matrix: Solid
Analysis Batch: 19527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19539

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/20/25 10:11	01/20/25 13:52	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/20/25 10:11	01/20/25 13:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*01/20/25 10:11*	*01/20/25 13:52*	*1*

Lab Sample ID: LCS 885-19539/2-A
Matrix: Solid
Analysis Batch: 19527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19539

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	51.0		mg/Kg		102	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*

Lab Sample ID: 885-18631-1 MS
Matrix: Solid
Analysis Batch: 19527

Client Sample ID: WS25-78 4'-8'
Prep Type: Total/NA
Prep Batch: 19539

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	240		47.4	232	4	mg/Kg		-20	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*

Lab Sample ID: 885-18631-1 MSD
Matrix: Solid
Analysis Batch: 19527

Client Sample ID: WS25-78 4'-8'
Prep Type: Total/NA
Prep Batch: 19539

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	240		48.1	250	4	mg/Kg		16	44 - 136	7	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*109*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-19551/1-A
Matrix: Solid
Analysis Batch: 19557

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19551

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/20/25 11:55	01/20/25 13:18	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18631-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-19551/2-A
Matrix: Solid
Analysis Batch: 19557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19551

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.3		mg/Kg		98	90 - 110		

QC Association Summary

Client: Vertex Job ID: 885-18631-1
Project/Site: Endurance Lariat Water Line

GC VOA

Prep Batch: 19538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18631-1	WS25-78 4'-8'	Total/NA	Solid	5035	
885-18631-2	WS25-79 5.5'-8'	Total/NA	Solid	5035	
885-18631-3	WS25-80 5.5'-7'	Total/NA	Solid	5035	
MB 885-19538/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19538/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19538/3-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 19566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18631-1	WS25-78 4'-8'	Total/NA	Solid	8021B	19538
885-18631-2	WS25-79 5.5'-8'	Total/NA	Solid	8021B	19538
885-18631-3	WS25-80 5.5'-7'	Total/NA	Solid	8021B	19538
MB 885-19538/1-A	Method Blank	Total/NA	Solid	8021B	19538
LCS 885-19538/3-A	Lab Control Sample	Total/NA	Solid	8021B	19538

Analysis Batch: 19567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18631-1	WS25-78 4'-8'	Total/NA	Solid	8015D	19538
885-18631-2	WS25-79 5.5'-8'	Total/NA	Solid	8015D	19538
885-18631-3	WS25-80 5.5'-7'	Total/NA	Solid	8015D	19538
MB 885-19538/1-A	Method Blank	Total/NA	Solid	8015D	19538
LCS 885-19538/2-A	Lab Control Sample	Total/NA	Solid	8015D	19538

GC Semi VOA

Analysis Batch: 19527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18631-1	WS25-78 4'-8'	Total/NA	Solid	8015D	19539
885-18631-2	WS25-79 5.5'-8'	Total/NA	Solid	8015D	19539
885-18631-3	WS25-80 5.5'-7'	Total/NA	Solid	8015D	19539
MB 885-19539/1-A	Method Blank	Total/NA	Solid	8015D	19539
LCS 885-19539/2-A	Lab Control Sample	Total/NA	Solid	8015D	19539
885-18631-1 MS	WS25-78 4'-8'	Total/NA	Solid	8015D	19539
885-18631-1 MSD	WS25-78 4'-8'	Total/NA	Solid	8015D	19539

Prep Batch: 19539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18631-1	WS25-78 4'-8'	Total/NA	Solid	SHAKE	
885-18631-2	WS25-79 5.5'-8'	Total/NA	Solid	SHAKE	
885-18631-3	WS25-80 5.5'-7'	Total/NA	Solid	SHAKE	
MB 885-19539/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-19539/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-18631-1 MS	WS25-78 4'-8'	Total/NA	Solid	SHAKE	
885-18631-1 MSD	WS25-78 4'-8'	Total/NA	Solid	SHAKE	

HPLC/IC

Prep Batch: 19551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18631-1	WS25-78 4'-8'	Total/NA	Solid	300_Prep	
885-18631-2	WS25-79 5.5'-8'	Total/NA	Solid	300_Prep	
885-18631-3	WS25-80 5.5'-7'	Total/NA	Solid	300_Prep	

QC Association Summary

Client: Vertex Job ID: 885-18631-1
Project/Site: Endurance Lariat Water Line

HPLC/IC (Continued)

Prep Batch: 19551 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-19551/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19551/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18631-1	WS25-78 4'-8'	Total/NA	Solid	300.0	19551
885-18631-2	WS25-79 5.5'-8'	Total/NA	Solid	300.0	19551
885-18631-3	WS25-80 5.5'-7'	Total/NA	Solid	300.0	19551
MB 885-19551/1-A	Method Blank	Total/NA	Solid	300.0	19551
LCS 885-19551/2-A	Lab Control Sample	Total/NA	Solid	300.0	19551

Lab Chronicle

Client: Vertex
Job ID: 885-18631-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS25-78 4'-8'
Lab Sample ID: 885-18631-1
Date Collected: 01/15/25 09:00
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/21/25 03:25
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/21/25 03:25
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 14:13
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 15:32

Client Sample ID: WS25-79 5.5'-8'
Lab Sample ID: 885-18631-2
Date Collected: 01/15/25 09:30
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/21/25 03:49
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/21/25 03:49
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 14:46
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 15:43

Client Sample ID: WS25-80 5.5'-7'
Lab Sample ID: 885-18631-3
Date Collected: 01/15/25 10:00
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/21/25 04:13
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/21/25 04:13
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 15:28
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 15:53

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18631-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex Resource
(Bill to Solaris)
Mailing Address: 3101 BOYD Dr.
CARLSBAD NM 88220
Phone #: 575-725-5001
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24 hr.
Project Name: Endurance Harlot Water Line
Project #: 24E-03247
Project Manager: Chance Dixon
cdixon@vertexresource.com
Sampler: Katrina Taylor
On Ice: ☑ Yes ☐ No
# of Coolers: 1 MOD
Cooler Temp(including CF): 2.4±0=2.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORA
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
885-18631 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
1/15/25	9:00	soil	WS25-78 4'-8'	4oz	ICE	1	X	X					X			
↓	9:30	soil	WS25-79 5.5'-8'	4oz	ICE	2	X	X					X			
	10:00	soil	WS25-80 5.5'-7'	4oz	ICE	3	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1/15/25	16:30	Triston Stahl	[illegible]		1/17/25	945
1/17/25	1900	[illegible]	SCM	COURIER	1/18/25	0815

Remarks: Bill to Solaris
Attn: Rob Kirk rob.kirk@ariswater.com
cc: cdixon@vertexresource.com, katrina.taylor@vertex

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18631-1

Login Number: 18631 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: McQuiston, Steven

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/22/2025 4:49:09 PM

JOB DESCRIPTION

Endurance lariat Water Line

JOB NUMBER

885-18632-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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1/22/2025 4:49:09 PM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance lariat Water Line

Laboratory Job ID: 885-18632-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance lariat Water Line

Job ID: 885-18632-1

Job ID: 885-18632-1 Eurofins Albuquerque

Job Narrative
885-18632-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/18/2025 8:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: BS25-53 4'
Lab Sample ID: 885-18632-1
Date Collected: 01/16/25 09:00
Matrix: Solid
Date Received: 01/18/25 08:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.5		mg/Kg		01/20/25 10:01	01/20/25 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*01/20/25 10:01*	*01/20/25 23:05*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/20/25 10:01	01/20/25 23:05	1
Ethylbenzene	ND		0.035		mg/Kg		01/20/25 10:01	01/20/25 23:05	1
Toluene	ND		0.035		mg/Kg		01/20/25 10:01	01/20/25 23:05	1
Xylenes, Total	ND		0.070		mg/Kg		01/20/25 10:01	01/20/25 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*01/20/25 10:01*	*01/20/25 23:05*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**30**		9.5		mg/Kg		01/20/25 10:11	01/20/25 16:21	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/20/25 10:11	01/20/25 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/20/25 10:11*	*01/20/25 16:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**		60		mg/Kg		01/20/25 11:55	01/20/25 13:38	20

Client Sample Results

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: BS25-54 4'
Lab Sample ID: 885-18632-2
Date Collected: 01/16/25 09:30
Matrix: Solid
Date Received: 01/18/25 08:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.5		mg/Kg		01/20/25 10:01	01/21/25 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*01/20/25 10:01*	*01/21/25 00:16*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		01/20/25 10:01	01/21/25 00:16	1
Ethylbenzene	ND		0.035		mg/Kg		01/20/25 10:01	01/21/25 00:16	1
Toluene	ND		0.035		mg/Kg		01/20/25 10:01	01/21/25 00:16	1
Xylenes, Total	ND		0.071		mg/Kg		01/20/25 10:01	01/21/25 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*	*01/20/25 10:01*	*01/21/25 00:16*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/20/25 10:11	01/20/25 16:32	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/20/25 10:11	01/20/25 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*01/20/25 10:11*	*01/20/25 16:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/20/25 11:55	01/20/25 14:09	20

Client Sample Results

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: BS25-55 4'
Lab Sample ID: 885-18632-3
Date Collected: 01/16/25 10:00
Matrix: Solid
Date Received: 01/18/25 08:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.1		mg/Kg		01/20/25 10:01	01/21/25 01:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*01/20/25 10:01*	*01/21/25 01:27*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.015		mg/Kg		01/20/25 10:01	01/21/25 01:27	1
Ethylbenzene	ND		0.031		mg/Kg		01/20/25 10:01	01/21/25 01:27	1
Toluene	ND		0.031		mg/Kg		01/20/25 10:01	01/21/25 01:27	1
Xylenes, Total	ND		0.062		mg/Kg		01/20/25 10:01	01/21/25 01:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*	*01/20/25 10:01*	*01/21/25 01:27*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/20/25 10:11	01/20/25 16:43	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/20/25 10:11	01/20/25 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*01/20/25 10:11*	*01/20/25 16:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/20/25 11:55	01/20/25 14:20	20

Client Sample Results

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: WS25-85 0-4'
Lab Sample ID: 885-18632-4
Date Collected: 01/16/25 10:30
Matrix: Solid
Date Received: 01/18/25 08:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.1		mg/Kg		01/20/25 10:01	01/21/25 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*35 - 166*	*01/20/25 10:01*	*01/21/25 01:50*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.015		mg/Kg		01/20/25 10:01	01/21/25 01:50	1
Ethylbenzene	ND		0.031		mg/Kg		01/20/25 10:01	01/21/25 01:50	1
Toluene	ND		0.031		mg/Kg		01/20/25 10:01	01/21/25 01:50	1
Xylenes, Total	ND		0.061		mg/Kg		01/20/25 10:01	01/21/25 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*	*01/20/25 10:01*	*01/21/25 01:50*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		01/20/25 10:11	01/20/25 16:54	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/20/25 10:11	01/20/25 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*01/20/25 10:11*	*01/20/25 16:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/20/25 11:55	01/20/25 14:30	20

Client Sample Results

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: WS25-86 0-4'
Lab Sample ID: 885-18632-5
Date Collected: 01/16/25 11:00
Matrix: Solid
Date Received: 01/18/25 08:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.2		mg/Kg		01/20/25 10:01	01/21/25 02:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*01/20/25 10:01*	*01/21/25 02:14*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/20/25 10:01	01/21/25 02:14	1
Ethylbenzene	ND		0.032		mg/Kg		01/20/25 10:01	01/21/25 02:14	1
Toluene	ND		0.032		mg/Kg		01/20/25 10:01	01/21/25 02:14	1
Xylenes, Total	ND		0.064		mg/Kg		01/20/25 10:01	01/21/25 02:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*01/20/25 10:01*	*01/21/25 02:14*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		01/20/25 10:11	01/20/25 17:05	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		01/20/25 10:11	01/20/25 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*108*		*62 - 134*	*01/20/25 10:11*	*01/20/25 17:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/20/25 11:55	01/20/25 14:40	20

Client Sample Results

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: WS25-88 0-4'
Lab Sample ID: 885-18632-6
Date Collected: 01/16/25 11:30
Matrix: Solid
Date Received: 01/18/25 08:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.2		mg/Kg		01/20/25 10:01	01/21/25 02:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*01/20/25 10:01*	*01/21/25 02:38*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/20/25 10:01	01/21/25 02:38	1
Ethylbenzene	ND		0.032		mg/Kg		01/20/25 10:01	01/21/25 02:38	1
Toluene	ND		0.032		mg/Kg		01/20/25 10:01	01/21/25 02:38	1
Xylenes, Total	ND		0.065		mg/Kg		01/20/25 10:01	01/21/25 02:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*	*01/20/25 10:01*	*01/21/25 02:38*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		01/20/25 10:11	01/20/25 17:15	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		01/20/25 10:11	01/20/25 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*01/20/25 10:11*	*01/20/25 17:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/20/25 11:55	01/20/25 14:51	20

Client Sample Results

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: WS25-89 0-4'
Lab Sample ID: 885-18632-7
Date Collected: 01/16/25 12:00
Matrix: Solid
Date Received: 01/18/25 08:15

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.2		mg/Kg		01/20/25 10:01	01/21/25 03:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*35 - 166*	*01/20/25 10:01*	*01/21/25 03:02*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/20/25 10:01	01/21/25 03:02	1
Ethylbenzene	ND		0.032		mg/Kg		01/20/25 10:01	01/21/25 03:02	1
Toluene	ND		0.032		mg/Kg		01/20/25 10:01	01/21/25 03:02	1
Xylenes, Total	ND		0.065		mg/Kg		01/20/25 10:01	01/21/25 03:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*	*01/20/25 10:01*	*01/21/25 03:02*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		01/20/25 10:11	01/20/25 17:26	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/20/25 10:11	01/20/25 17:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*	*01/20/25 10:11*	*01/20/25 17:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**80**		60		mg/Kg		01/20/25 11:55	01/20/25 15:22	20

QC Sample Results

Client: Vertex
Project/Site: Endurance lariat Water Line

Job ID: 885-18632-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19538/1-A
Matrix: Solid
Analysis Batch: 19567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19538

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/20/25 10:01	01/20/25 22:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*01/20/25 10:01*	*01/20/25 22:41*	*1*

Lab Sample ID: LCS 885-19538/2-A
Matrix: Solid
Analysis Batch: 19567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19538

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	21.4		mg/Kg		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*196*		*35 - 166*

Lab Sample ID: 885-18632-1 MS
Matrix: Solid
Analysis Batch: 19567

Client Sample ID: BS25-53 4'
Prep Type: Total/NA
Prep Batch: 19538

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		17.5	17.1		mg/Kg		98	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*192*		*35 - 166*

Lab Sample ID: 885-18632-1 MSD
Matrix: Solid
Analysis Batch: 19567

Client Sample ID: BS25-53 4'
Prep Type: Total/NA
Prep Batch: 19538

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		17.5	15.8		mg/Kg		90	70 - 130	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*194*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19538/1-A
Matrix: Solid
Analysis Batch: 19566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19538

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/20/25 10:01	01/20/25 22:41	1
Ethylbenzene	ND		0.050		mg/Kg		01/20/25 10:01	01/20/25 22:41	1
Toluene	ND		0.050		mg/Kg		01/20/25 10:01	01/20/25 22:41	1

QC Sample Results

Client: Vertex
Project/Site: Endurance lariat Water Line

Job ID: 885-18632-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-19538/1-A
Matrix: Solid
Analysis Batch: 19566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19538

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/20/25 10:01	01/20/25 22:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*01/20/25 10:01*	*01/20/25 22:41*	*1*

Lab Sample ID: LCS 885-19538/3-A
Matrix: Solid
Analysis Batch: 19566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19538

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.05		mg/Kg		105	70 - 130		
Ethylbenzene			1.00	1.05		mg/Kg		105	70 - 130		
m&p-Xylene			2.00	2.07		mg/Kg		104	70 - 130		
o-Xylene			1.00	1.03		mg/Kg		103	70 - 130		
Toluene			1.00	1.08		mg/Kg		108	70 - 130		
Xylenes, Total			3.00	3.10		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*48 - 145*

Lab Sample ID: 885-18632-2 MS
Matrix: Solid
Analysis Batch: 19566

Client Sample ID: BS25-54 4'
Prep Type: Total/NA
Prep Batch: 19538

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.709	0.731		mg/Kg		103	70 - 130		
Ethylbenzene	ND		0.709	0.744		mg/Kg		105	70 - 130		
m&p-Xylene	ND		1.42	1.47		mg/Kg		104	70 - 130		
o-Xylene	ND		0.709	0.733		mg/Kg		103	70 - 130		
Toluene	ND		0.709	0.748		mg/Kg		105	70 - 130		
Xylenes, Total	ND		2.13	2.21		mg/Kg		104	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*48 - 145*

Lab Sample ID: 885-18632-2 MSD
Matrix: Solid
Analysis Batch: 19566

Client Sample ID: BS25-54 4'
Prep Type: Total/NA
Prep Batch: 19538

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.709	0.732		mg/Kg		103	70 - 130	0	20
Ethylbenzene	ND		0.709	0.757		mg/Kg		107	70 - 130	2	20
m&p-Xylene	ND		1.42	1.48		mg/Kg		104	70 - 130	0	20
o-Xylene	ND		0.709	0.729		mg/Kg		103	70 - 130	1	20
Toluene	ND		0.709	0.749		mg/Kg		106	70 - 130	0	20
Xylenes, Total	ND		2.13	2.21		mg/Kg		104	70 - 130	0	20

QC Sample Results

Client: Vertex
Project/Site: Endurance lariat Water Line

Job ID: 885-18632-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-18632-2 MSD
Matrix: Solid
Analysis Batch: 19566

Client Sample ID: BS25-54 4'
Prep Type: Total/NA
Prep Batch: 19538

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*106*		*48 - 145*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-19539/1-A
Matrix: Solid
Analysis Batch: 19527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19539

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/20/25 10:11	01/20/25 13:52	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/20/25 10:11	01/20/25 13:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*01/20/25 10:11*	*01/20/25 13:52*	*1*

Lab Sample ID: LCS 885-19539/2-A
Matrix: Solid
Analysis Batch: 19527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19539

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	51.0		mg/Kg		102	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-19551/1-A
Matrix: Solid
Analysis Batch: 19557

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19551

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/20/25 11:55	01/20/25 13:18	1

Lab Sample ID: LCS 885-19551/2-A
Matrix: Solid
Analysis Batch: 19557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19551

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.3		mg/Kg		98	90 - 110		

Lab Sample ID: 885-18632-1 MS
Matrix: Solid
Analysis Batch: 19557

Client Sample ID: BS25-53 4'
Prep Type: Total/NA
Prep Batch: 19551

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	300		29.8	353	4	mg/Kg		179	50 - 150		

QC Sample Results

Client: Vertex
Project/Site: Endurance lariat Water Line

Job ID: 885-18632-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 885-18632-1 MSD
Matrix: Solid
Analysis Batch: 19557

Client Sample ID: BS25-53 4'
Prep Type: Total/NA
Prep Batch: 19551

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	300		29.9	325	4	mg/Kg		87	50 - 150	8	20

QC Association Summary

Client: Vertex Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

GC VOA

Prep Batch: 19538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18632-1	BS25-53 4'	Total/NA	Solid	5035	
885-18632-2	BS25-54 4'	Total/NA	Solid	5035	
885-18632-3	BS25-55 4'	Total/NA	Solid	5035	
885-18632-4	WS25-85 0-4'	Total/NA	Solid	5035	
885-18632-5	WS25-86 0-4'	Total/NA	Solid	5035	
885-18632-6	WS25-88 0-4'	Total/NA	Solid	5035	
885-18632-7	WS25-89 0-4'	Total/NA	Solid	5035	
MB 885-19538/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19538/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19538/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-18632-1 MS	BS25-53 4'	Total/NA	Solid	5035	
885-18632-1 MSD	BS25-53 4'	Total/NA	Solid	5035	
885-18632-2 MS	BS25-54 4'	Total/NA	Solid	5035	
885-18632-2 MSD	BS25-54 4'	Total/NA	Solid	5035	

Analysis Batch: 19566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18632-1	BS25-53 4'	Total/NA	Solid	8021B	19538
885-18632-2	BS25-54 4'	Total/NA	Solid	8021B	19538
885-18632-3	BS25-55 4'	Total/NA	Solid	8021B	19538
885-18632-4	WS25-85 0-4'	Total/NA	Solid	8021B	19538
885-18632-5	WS25-86 0-4'	Total/NA	Solid	8021B	19538
885-18632-6	WS25-88 0-4'	Total/NA	Solid	8021B	19538
885-18632-7	WS25-89 0-4'	Total/NA	Solid	8021B	19538
MB 885-19538/1-A	Method Blank	Total/NA	Solid	8021B	19538
LCS 885-19538/3-A	Lab Control Sample	Total/NA	Solid	8021B	19538
885-18632-2 MS	BS25-54 4'	Total/NA	Solid	8021B	19538
885-18632-2 MSD	BS25-54 4'	Total/NA	Solid	8021B	19538

Analysis Batch: 19567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18632-1	BS25-53 4'	Total/NA	Solid	8015D	19538
885-18632-2	BS25-54 4'	Total/NA	Solid	8015D	19538
885-18632-3	BS25-55 4'	Total/NA	Solid	8015D	19538
885-18632-4	WS25-85 0-4'	Total/NA	Solid	8015D	19538
885-18632-5	WS25-86 0-4'	Total/NA	Solid	8015D	19538
885-18632-6	WS25-88 0-4'	Total/NA	Solid	8015D	19538
885-18632-7	WS25-89 0-4'	Total/NA	Solid	8015D	19538
MB 885-19538/1-A	Method Blank	Total/NA	Solid	8015D	19538
LCS 885-19538/2-A	Lab Control Sample	Total/NA	Solid	8015D	19538
885-18632-1 MS	BS25-53 4'	Total/NA	Solid	8015D	19538
885-18632-1 MSD	BS25-53 4'	Total/NA	Solid	8015D	19538

GC Semi VOA

Analysis Batch: 19527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18632-1	BS25-53 4'	Total/NA	Solid	8015D	19539
885-18632-2	BS25-54 4'	Total/NA	Solid	8015D	19539
885-18632-3	BS25-55 4'	Total/NA	Solid	8015D	19539
885-18632-4	WS25-85 0-4'	Total/NA	Solid	8015D	19539

QC Association Summary

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

GC Semi VOA (Continued)

Analysis Batch: 19527 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18632-5	WS25-86 0-4'	Total/NA	Solid	8015D	19539
885-18632-6	WS25-88 0-4'	Total/NA	Solid	8015D	19539
885-18632-7	WS25-89 0-4'	Total/NA	Solid	8015D	19539
MB 885-19539/1-A	Method Blank	Total/NA	Solid	8015D	19539
LCS 885-19539/2-A	Lab Control Sample	Total/NA	Solid	8015D	19539

Prep Batch: 19539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18632-1	BS25-53 4'	Total/NA	Solid	SHAKE	
885-18632-2	BS25-54 4'	Total/NA	Solid	SHAKE	
885-18632-3	BS25-55 4'	Total/NA	Solid	SHAKE	
885-18632-4	WS25-85 0-4'	Total/NA	Solid	SHAKE	
885-18632-5	WS25-86 0-4'	Total/NA	Solid	SHAKE	
885-18632-6	WS25-88 0-4'	Total/NA	Solid	SHAKE	
885-18632-7	WS25-89 0-4'	Total/NA	Solid	SHAKE	
MB 885-19539/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-19539/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

HPLC/IC

Prep Batch: 19551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18632-1	BS25-53 4'	Total/NA	Solid	300_Prep	
885-18632-2	BS25-54 4'	Total/NA	Solid	300_Prep	
885-18632-3	BS25-55 4'	Total/NA	Solid	300_Prep	
885-18632-4	WS25-85 0-4'	Total/NA	Solid	300_Prep	
885-18632-5	WS25-86 0-4'	Total/NA	Solid	300_Prep	
885-18632-6	WS25-88 0-4'	Total/NA	Solid	300_Prep	
885-18632-7	WS25-89 0-4'	Total/NA	Solid	300_Prep	
MB 885-19551/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19551/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
885-18632-1 MS	BS25-53 4'	Total/NA	Solid	300_Prep	
885-18632-1 MSD	BS25-53 4'	Total/NA	Solid	300_Prep	

Analysis Batch: 19557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18632-1	BS25-53 4'	Total/NA	Solid	300.0	19551
885-18632-2	BS25-54 4'	Total/NA	Solid	300.0	19551
885-18632-3	BS25-55 4'	Total/NA	Solid	300.0	19551
885-18632-4	WS25-85 0-4'	Total/NA	Solid	300.0	19551
885-18632-5	WS25-86 0-4'	Total/NA	Solid	300.0	19551
885-18632-6	WS25-88 0-4'	Total/NA	Solid	300.0	19551
885-18632-7	WS25-89 0-4'	Total/NA	Solid	300.0	19551
MB 885-19551/1-A	Method Blank	Total/NA	Solid	300.0	19551
LCS 885-19551/2-A	Lab Control Sample	Total/NA	Solid	300.0	19551
885-18632-1 MS	BS25-53 4'	Total/NA	Solid	300.0	19551
885-18632-1 MSD	BS25-53 4'	Total/NA	Solid	300.0	19551

Lab Chronicle

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: BS25-53 4'
Lab Sample ID: 885-18632-1
Date Collected: 01/16/25 09:00
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/20/25 23:05
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/20/25 23:05
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 16:21
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 13:38

Client Sample ID: BS25-54 4'
Lab Sample ID: 885-18632-2
Date Collected: 01/16/25 09:30
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/21/25 00:16
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/21/25 00:16
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 16:32
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 14:09

Client Sample ID: BS25-55 4'
Lab Sample ID: 885-18632-3
Date Collected: 01/16/25 10:00
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/21/25 01:27
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/21/25 01:27
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 16:43
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 14:20

Client Sample ID: WS25-85 0-4'
Lab Sample ID: 885-18632-4
Date Collected: 01/16/25 10:30
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/21/25 01:50

Lab Chronicle

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: WS25-85 0-4'
Lab Sample ID: 885-18632-4
Date Collected: 01/16/25 10:30
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/21/25 01:50
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 16:54
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 14:30

Client Sample ID: WS25-86 0-4'
Lab Sample ID: 885-18632-5
Date Collected: 01/16/25 11:00
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/21/25 02:14
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/21/25 02:14
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 17:05
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 14:40

Client Sample ID: WS25-88 0-4'
Lab Sample ID: 885-18632-6
Date Collected: 01/16/25 11:30
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/21/25 02:38
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/21/25 02:38
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 17:15
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 14:51

Client Sample ID: WS25-89 0-4'
Lab Sample ID: 885-18632-7
Date Collected: 01/16/25 12:00
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8015D		1	19567	JP	EET ALB	01/21/25 03:02
Total/NA	Prep	5035			19538	JP	EET ALB	01/20/25 10:01
Total/NA	Analysis	8021B		1	19566	JP	EET ALB	01/21/25 03:02

Lab Chronicle

Client: Vertex
Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Client Sample ID: WS25-89 0-4'
Lab Sample ID: 885-18632-7
Date Collected: 01/16/25 12:00
Matrix: Solid
Date Received: 01/18/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			19539	MI	EET ALB	01/20/25 10:11
Total/NA	Analysis	8015D		1	19527	MI	EET ALB	01/20/25 17:26
Total/NA	Prep	300_Prep			19551	EH	EET ALB	01/20/25 11:55
Total/NA	Analysis	300.0		20	19557	EH	EET ALB	01/20/25 15:22

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18632-1
Project/Site: Endurance lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABOR
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 8710
Tel. 505-345-3975 Fax 505-345-4107
885-18632 COC

Client: Solaris Vertex (bill to solaris)
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 24 hr
Project Name: Endurance Lucat waterline
Project #: 24G-03247
Project Manager: Change dixon: C.dixon@vertexresource.com
Sampler:
On Ice: ☒ Yes ☐ No
# of Coolers: 1 MOJO
Cooler Temp(including CF): 2.4+0=2.4 (°C)

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
1/16/24	9:00	Soil	BS25-53 4'	4oz	Ice	1	X	X					X			
	9:30		BS25-54 4'			2										
	10:00		BS25-55 4'			3										
	10:30		WS25-85 0-4'			4										
	11:00		WS25-86 0-4'			5										
	11:30		WS25-88 0-4'			6										
	12:00		WS25-89 0-4'			7										

Date	Time	Relinquished by	Received by	Via	Date	Time
8:00	1/17	Katrina Taylor			1/17/25	800
1/17/25	1900		SCM	COURIER	1/18/25	0815

Remarks: bill to Solaris
ATTN: Rob Kirk rob.kirk@arisWaterSolutions.com
CC: Cdixon@vertexresource.com &

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18632-1

Login Number: 18632 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: McQuiston, Steven

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 24, 2025

CHANCE DIXON

VERTEX RESOURCE

3101 BOYD DRIVE

CARLSBAD, NM 88220

RE: ENDURANCE LARIAT WATER LINE

Enclosed are the results of analyses for samples received by the laboratory on 01/23/25 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/23/2025	Sampling Date:	01/22/2025
Reported:	01/24/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS		

Sample ID: BS24 - 40 8' (H250412-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2025	ND	2.07	104	2.00	3.76	
Toluene*	<0.050	0.050	01/23/2025	ND	2.27	113	2.00	0.865	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.53	126	2.00	3.19	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	7.79	130	6.00	2.76	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *118 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4880**	16.0	01/24/2025	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2025	ND	201	100	200	0.874	
DRO >C10-C28*	**455**	10.0	01/24/2025	ND	201	101	200	0.989	
EXT DRO >C28-C36	**67.5**	10.0	01/24/2025	ND					

Surrogate: 1-Chlorooctane *90.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *98.7 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/23/2025	Sampling Date:	01/22/2025
Reported:	01/24/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS		

Sample ID: BS25 - 58 4' (H250412-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2025	ND	2.07	104	2.00	3.76	
Toluene*	<0.050	0.050	01/23/2025	ND	2.27	113	2.00	0.865	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.53	126	2.00	3.19	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	7.79	130	6.00	2.76	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *125 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**896**	16.0	01/24/2025	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2025	ND	201	100	200	0.874	
DRO >C10-C28*	**222**	10.0	01/24/2025	ND	201	101	200	0.989	
EXT DRO >C28-C36	**43.1**	10.0	01/24/2025	ND					

Surrogate: 1-Chlorooctane *81.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.7 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/23/2025	Sampling Date:	01/22/2025
Reported:	01/24/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS		

Sample ID: BS25 - 59 5' (H250412-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2025	ND	2.07	104	2.00	3.76	
Toluene*	**0.067**	0.050	01/23/2025	ND	2.27	113	2.00	0.865	
Ethylbenzene*	**0.084**	0.050	01/23/2025	ND	2.53	126	2.00	3.19	
Total Xylenes*	**0.868**	0.150	01/23/2025	ND	7.79	130	6.00	2.76	
Total BTEX	**1.02**	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *119 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	01/24/2025	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**12.3**	10.0	01/24/2025	ND	201	100	200	0.874	
DRO >C10-C28*	**248**	10.0	01/24/2025	ND	201	101	200	0.989	
EXT DRO >C28-C36	**29.6**	10.0	01/24/2025	ND					

Surrogate: 1-Chlorooctane *86.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *95.4 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/23/2025	Sampling Date:	01/22/2025
Reported:	01/24/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS		

Sample ID: BS25 - 60 7' (H250412-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2025	ND	2.07	104	2.00	3.76	
Toluene*	<0.050	0.050	01/23/2025	ND	2.27	113	2.00	0.865	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.53	126	2.00	3.19	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	7.79	130	6.00	2.76	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *122 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**672**	16.0	01/24/2025	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2025	ND	201	100	200	0.874	
DRO >C10-C28*	**723**	10.0	01/24/2025	ND	201	101	200	0.989	
EXT DRO >C28-C36	**141**	10.0	01/24/2025	ND					

Surrogate: 1-Chlorooctane *88.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *97.6 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/23/2025	Sampling Date:	01/22/2025
Reported:	01/24/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS		

Sample ID: WS25 - 92 0-4' (H250412-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2025	ND	2.07	104	2.00	3.76	
Toluene*	<0.050	0.050	01/23/2025	ND	2.27	113	2.00	0.865	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.53	126	2.00	3.19	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	7.79	130	6.00	2.76	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *120 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	01/24/2025	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2025	ND	201	100	200	0.874	
DRO >C10-C28*	<10.0	10.0	01/24/2025	ND	201	101	200	0.989	
EXT DRO >C28-C36	<10.0	10.0	01/24/2025	ND					

Surrogate: 1-Chlorooctane *90.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.0 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Notes and Definitions

BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Page 550 of 595

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Vertex (bill to Solaris)
Project Manager: Chance Dixon
Address: 3101 boyd dr
City: Carlsbad State: NM Zip: 88220
Phone #: 575-725-5001 Fax #:
Project #: 24G-03247 Project Owner:
Project Name: Endurance Lariat Water line
Project Location:
Sampler Name: Katrina Taylor

BILL TO
P.O. #:
Company: Solaris Water
Attn: Rob Kirk
Address: 907 Tradewinds
City: Midland
State: Tx Zip: 79706
Phone #: 432-203-9020
Fax #:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	ANALYSIS REQUEST: TPH (MRO, GRO, DRO)	BTEX	Cl
H250412																	
1	BS24-40 8'	C	4			X					X		1/22	9:00	X	X	X
2	BS25-58 4'	C	4			X					X		1/22	9:30			
3	BS25-59 5'					X					X		1/22	10:00			
4	BS25-66 7'					X					X		1/22	10:30			
5	WS25-92 0-4'					X					X		1/22	11:00			

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Relinquished By: Katrina Taylor Date: 1/22 Time: 10:00 Received By:
Relinquished By: Date: 1-23-25 Time: 1400 Received By:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 1.0 Corrected Temp. °C 0.4
Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No
CHECKED BY: (Initials)

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
REMARKS: bill to Solaris Rob.Kirk@arisWater.com

Turnaround Time: Standard ☐ Rush ☒ 24HRS
Thermometer ID #140 Correction Factor -0.6°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No
Observed Temp. °C Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

FORM-006 R 3.3 08/05/24

Received by OCD: 3/19/2025 9:55:55 AM

Released to Imaging: 5/16/2025 10:00:05 AM

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 30, 2025

CHANCE DIXON

VERTEX RESOURCE

3101 BOYD DRIVE

CARLSBAD, NM 88220

RE: ENDURANCE LARIAT WATER LINE

Enclosed are the results of analyses for samples received by the laboratory on 01/30/25 13:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	01/30/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS		

Sample ID: WS25 - 98 @ 8-9' (H250548-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.99	99.6	2.00	0.943	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	0.959	
Ethylbenzene*	**0.065**	0.050	01/30/2025	ND	2.15	108	2.00	1.44	GC-NC1
Total Xylenes*	**0.527**	0.150	01/30/2025	ND	6.58	110	6.00	1.11	
Total BTEX	**0.592**	0.300	01/30/2025	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *127 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4400**	16.0	01/30/2025	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**25.3**	10.0	01/30/2025	ND	207	104	200	1.79	
DRO >C10-C28*	**319**	10.0	01/30/2025	ND	203	101	200	1.64	
EXT DRO >C28-C36	**44.0**	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane *102 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *115 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	01/30/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS		

Sample ID: WS25 - 100 @ 6-8' (H250548-02)

BTEX 8021B mg/kg Analyzed By: JH S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.99	99.6	2.00	0.943	
Toluene*	**1.20**	0.050	01/30/2025	ND	2.10	105	2.00	0.959	GC-NC1
Ethylbenzene*	**1.97**	0.050	01/30/2025	ND	2.15	108	2.00	1.44	GC-NC1
Total Xylenes*	**17.0**	0.150	01/30/2025	ND	6.58	110	6.00	1.11	
Total BTEX	**20.1**	0.300	01/30/2025	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *204 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3000**	16.0	01/30/2025	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**414**	10.0	01/30/2025	ND	177	88.4	200	2.01	
DRO >C10-C28*	**1600**	10.0	01/30/2025	ND	169	84.7	200	3.15	
EXT DRO >C28-C36	**236**	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane *98.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *137 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	01/30/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS		

Sample ID: BS24 - 38 @ 8' (H250548-03)

BTEX 8021B mg/kg Analyzed By: JH S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.99	99.6	2.00	0.943	
Toluene*	**1.04**	0.050	01/30/2025	ND	2.10	105	2.00	0.959	GC-NC1
Ethylbenzene*	**1.70**	0.050	01/30/2025	ND	2.15	108	2.00	1.44	GC-NC1
Total Xylenes*	**12.5**	0.150	01/30/2025	ND	6.58	110	6.00	1.11	
Total BTEX	**15.2**	0.300	01/30/2025	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *190 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2680**	16.0	01/30/2025	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**336**	10.0	01/30/2025	ND	177	88.4	200	2.01	
DRO >C10-C28*	**1500**	10.0	01/30/2025	ND	169	84.7	200	3.15	
EXT DRO >C28-C36	**220**	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane *105 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *145 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC1	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Vertex (bill to Solaris)
Project Manager: Chance Dixon
Address: 3101 Boyd Dr.
City: Carlsbad State: NM Zip: 88220
Phone #: 575-988-1472 Fax #:
Project #: 24E-03247 Project Owner:
Project Name: Endurance Lariat water line
Project Location:
Sampler Name: Riley Arnold

BILL TO
P.O. #:
Company: Solariswater
Attn: Rob kirk
Address: 907 tradewind
City: Midland
State: TX Zip: 79706
Phone #: 432-203-
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	BTEX (8021)	TPH: 8015D(GRO/MRO/DRO)	chloride
H250548-1	WS25-98 @ 8-9'	C				X					X		1.28.25	10:25	X	X	X
2	WS25-100 @ 6-8'	C				X					X		1.28.25	11:48			
3	BS24-38 @ 8'	C				X					X		1.28.25	1:52			

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Relinquished By: Date: 1130 Time: 10:01 Received By:
Relinquished By: Date: 1335 Received By:
Time:

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:
Observed Temp. °C 1.9
Corrected Temp. °C 1.3
Sample Condition: Cool: Yes / No; Intact: Yes / No
CHECKED BY: (Initials)

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
Cdixon@vertexresource.com
REMARKS:
Bill to solaris Robkirk@Solariswater.com
Turnaround Time: Standard ☐ Rush ☑ same day
Thermometer ID #140
Correction Factor -0.6°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

FORM-006 R 3.3 08/03/24

Received by OCD: 3/19/2025 9:55:55 AM

Released to Imaging: 5/16/2025 10:00:05 AM

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 31, 2025

CHANCE DIXON

VERTEX RESOURCE

3101 BOYD DRIVE

CARLSBAD, NM 88220

RE: ENDURANCE LARIAT WATER LINE

Enclosed are the results of analyses for samples received by the laboratory on 01/31/25 11:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/31/2025	Sampling Date:	01/31/2025
Reported:	01/31/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS		

Sample ID: BS24 - 38 8.5' (H250586-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/31/2025	ND	2.16	108	2.00	7.59	
Toluene*	<0.050	0.050	01/31/2025	ND	2.19	110	2.00	7.80	
Ethylbenzene*	<0.050	0.050	01/31/2025	ND	2.24	112	2.00	6.72	
Total Xylenes*	<0.150	0.150	01/31/2025	ND	6.69	112	6.00	6.10	
Total BTEX	<0.300	0.300	01/31/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *123 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**384**	16.0	01/31/2025	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/31/2025	ND	179	89.5	200	0.652	
DRO >C10-C28*	**269**	10.0	01/31/2025	ND	185	92.5	200	0.451	
EXT DRO >C28-C36	**63.1**	10.0	01/31/2025	ND					

Surrogate: 1-Chlorooctane *101 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *111 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
CHANCE DIXON
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	01/31/2025	Sampling Date:	01/31/2025
Reported:	01/31/2025	Sampling Type:	Soil
Project Name:	ENDURANCE LARIAT WATER LINE	Sampling Condition:	Cool & Intact
Project Number:	24E - 03247	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS		

Sample ID: WS25 - 101 6-8' (H250586-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/31/2025	ND	2.16	108	2.00	7.59	
Toluene*	<0.050	0.050	01/31/2025	ND	2.19	110	2.00	7.80	
Ethylbenzene*	<0.050	0.050	01/31/2025	ND	2.24	112	2.00	6.72	
Total Xylenes*	<0.150	0.150	01/31/2025	ND	6.69	112	6.00	6.10	
Total BTEX	<0.300	0.300	01/31/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *127 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**544**	16.0	01/31/2025	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/31/2025	ND	179	89.5	200	0.652	
DRO >C10-C28*	**328**	10.0	01/31/2025	ND	185	92.5	200	0.451	
EXT DRO >C28-C36	**80.0**	10.0	01/31/2025	ND					

Surrogate: 1-Chlorooctane *103 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *115 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Vertex / Solaris
Project Manager:	Chance Dixon
Address:	On File
City:	State: Zip:
Phone #:	Fax #:
Project #:	Project Owner:
Project Name:	Endurance Carlot Line
Project Location:	Jal, NM
Sampler Name:	Chance Dixon

BILL TO

P.O. #:	
Company:	Solaris
Attn:	Rob Kirk
Address:	
City:	
State: Zip:	
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE	COOL	OTHER:	SAMPLING: DATE	TIME	BTEX 8021	TPH 8015	Cl
H250586																		
1	BS24-38 8.5'	C	1			✓					✓			1/31	8:45	✓	✓	✓
2	BS25-101 6-8'	C	1			✓					✓			1/31	8:50	✓	✓	✓

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Relinquished By:	Date: 1/31	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 11:05		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 2.6	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	Turnaround Time: Standard ☐ Rush ☑	Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No
Sampler - UPS - Bus - Other:	Corrected Temp. °C 2.0			Thermometer ID #140 Correction Factor -0.6°C	Observed Temp. °C / Corrected Temp. °C

Same Day

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

FORM-006 R 3.5 08/09/24

Received by OCD: 3/19/2025 9:55:55 AM

Released to Imaging: 5/16/2025 10:00:05 AM

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 1/14/2025 9:53:48 AM

JOB DESCRIPTION

Endurance Lariat Water Line

JOB NUMBER

885-18119-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 3/19/2025 10:00:05 AM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/14/2025 9:53:48 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Endurance Lariat Water Line

Laboratory Job ID: 885-18119-1

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Definitions/Glossary

Client: Vertex Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Endurance Lariat Water Line

Job ID: 885-18119-1

Job ID: 885-18119-1 Eurofins Albuquerque

Job Narrative
885-18119-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/9/2025 8:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C.

Gasoline Range Organics
Method 8015D_GRO: Surrogate recovery for the following samples were outside control limits: BS24-44 6.0' (885-18119-1), WS24-45 5-9' (885-18119-3) and WS24-47 7-8' (885-18119-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015D_GRO: Surrogate recovery for the following samples were outside control limits: (885-18119-A-1-B MS) and (885-18119-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-44 6.0'
Lab Sample ID: 885-18119-1
Date Collected: 01/06/25 10:00
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**60**		3.8		mg/Kg		01/09/25 08:11	01/09/25 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*262*	*S1+*	*35 - 166*	*01/09/25 08:11*	*01/09/25 11:41*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/09/25 08:11	01/09/25 11:41	1
Ethylbenzene	**0.12**		0.038		mg/Kg		01/09/25 08:11	01/09/25 11:41	1
Toluene	ND		0.038		mg/Kg		01/09/25 08:11	01/09/25 11:41	1
Xylenes, Total	**0.17**		0.076		mg/Kg		01/09/25 08:11	01/09/25 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*48 - 145*	*01/09/25 08:11*	*01/09/25 11:41*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**800**		9.1		mg/Kg		01/09/25 09:48	01/09/25 16:19	1
Motor Oil Range Organics [C28-C40]	**300**		45		mg/Kg		01/09/25 09:48	01/09/25 16:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*01/09/25 09:48*	*01/09/25 16:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6800**		300		mg/Kg		01/09/25 10:28	01/13/25 13:39	100

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-44 0-5'
Lab Sample ID: 885-18119-2
Date Collected: 01/06/25 10:10
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.1		mg/Kg		01/09/25 08:11	01/09/25 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*35 - 166*	*01/09/25 08:11*	*01/09/25 12:05*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016		mg/Kg		01/09/25 08:11	01/09/25 12:05	1
Ethylbenzene	ND		0.031		mg/Kg		01/09/25 08:11	01/09/25 12:05	1
Toluene	ND		0.031		mg/Kg		01/09/25 08:11	01/09/25 12:05	1
Xylenes, Total	ND		0.062		mg/Kg		01/09/25 08:11	01/09/25 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*48 - 145*	*01/09/25 08:11*	*01/09/25 12:05*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		01/09/25 09:48	01/09/25 16:30	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		01/09/25 09:48	01/09/25 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*01/09/25 09:48*	*01/09/25 16:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/09/25 10:28	01/10/25 13:57	20

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-45 5-9'
Lab Sample ID: 885-18119-3
Date Collected: 01/06/25 10:20
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	52		4.8		mg/Kg		01/09/25 09:57	01/09/25 12:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*248*	*S1+*	*35 - 166*	*01/09/25 09:57*	*01/09/25 12:29*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		01/09/25 09:57	01/09/25 12:29	1
Ethylbenzene	0.21		0.048		mg/Kg		01/09/25 09:57	01/09/25 12:29	1
Toluene	ND		0.048		mg/Kg		01/09/25 09:57	01/09/25 12:29	1
Xylenes, Total	1.7		0.095		mg/Kg		01/09/25 09:57	01/09/25 12:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*48 - 145*	*01/09/25 09:57*	*01/09/25 12:29*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	940		19		mg/Kg		01/09/25 09:48	01/10/25 10:13	2
Motor Oil Range Organics [C28-C40]	340		95		mg/Kg		01/09/25 09:48	01/10/25 10:13	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*01/09/25 09:48*	*01/10/25 10:13*	*2*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400		150		mg/Kg		01/09/25 10:28	01/13/25 13:50	50

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-47 7-8'
Lab Sample ID: 885-18119-4
Date Collected: 01/06/25 13:20
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**32**		4.1		mg/Kg		01/09/25 09:57	01/09/25 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*244*	*S1+*	*35 - 166*	*01/09/25 09:57*	*01/09/25 14:51*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		01/09/25 09:57	01/09/25 14:51	1
Ethylbenzene	**0.22**		0.041		mg/Kg		01/09/25 09:57	01/09/25 14:51	1
Toluene	ND		0.041		mg/Kg		01/09/25 09:57	01/09/25 14:51	1
Xylenes, Total	**1.3**		0.081		mg/Kg		01/09/25 09:57	01/09/25 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*48 - 145*	*01/09/25 09:57*	*01/09/25 14:51*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**790**		9.9		mg/Kg		01/09/25 09:48	01/10/25 14:04	1
Motor Oil Range Organics [C28-C40]	**310**		49		mg/Kg		01/09/25 09:48	01/10/25 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*01/09/25 09:48*	*01/10/25 14:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/10/25 11:16	01/10/25 14:56	20

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-48 0-4'
Lab Sample ID: 885-18119-5
Date Collected: 01/06/25 13:30
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.3		mg/Kg		01/09/25 09:57	01/09/25 13:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*35 - 166*	*01/09/25 09:57*	*01/09/25 13:16*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		01/09/25 09:57	01/09/25 13:16	1
Ethylbenzene	ND		0.033		mg/Kg		01/09/25 09:57	01/09/25 13:16	1
Toluene	ND		0.033		mg/Kg		01/09/25 09:57	01/09/25 13:16	1
Xylenes, Total	ND		0.067		mg/Kg		01/09/25 09:57	01/09/25 13:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*	*01/09/25 09:57*	*01/09/25 13:16*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/09/25 09:48	01/10/25 14:15	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/09/25 09:48	01/10/25 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*01/09/25 09:48*	*01/10/25 14:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/10/25 11:16	01/10/25 15:06	20

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-21 6.0'
Lab Sample ID: 885-18119-6
Date Collected: 01/07/25 10:25
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		01/09/25 09:57	01/09/25 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*35 - 166*	*01/09/25 09:57*	*01/09/25 13:40*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		01/09/25 09:57	01/09/25 13:40	1
Ethylbenzene	ND		0.049		mg/Kg		01/09/25 09:57	01/09/25 13:40	1
Toluene	ND		0.049		mg/Kg		01/09/25 09:57	01/09/25 13:40	1
Xylenes, Total	ND		0.098		mg/Kg		01/09/25 09:57	01/09/25 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*48 - 145*	*01/09/25 09:57*	*01/09/25 13:40*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		01/09/25 09:48	01/09/25 17:12	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		01/09/25 09:48	01/09/25 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*01/09/25 09:48*	*01/09/25 17:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5300**		150		mg/Kg		01/10/25 11:16	01/13/25 14:00	50

Client Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-37 8.5'
Lab Sample ID: 885-18119-7
Date Collected: 01/07/25 14:35
Matrix: Solid
Date Received: 01/09/25 08:05

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.9		mg/Kg		01/09/25 09:57	01/09/25 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*35 - 166*	*01/09/25 09:57*	*01/09/25 14:03*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		01/09/25 09:57	01/09/25 14:03	1
Ethylbenzene	ND		0.039		mg/Kg		01/09/25 09:57	01/09/25 14:03	1
Toluene	ND		0.039		mg/Kg		01/09/25 09:57	01/09/25 14:03	1
Xylenes, Total	ND		0.077		mg/Kg		01/09/25 09:57	01/09/25 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*	*01/09/25 09:57*	*01/09/25 14:03*	*1*

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		01/09/25 09:48	01/09/25 17:23	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		01/09/25 09:48	01/09/25 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*01/09/25 09:48*	*01/09/25 17:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		01/10/25 11:16	01/10/25 15:25	20

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18119-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-19039/1-A
Matrix: Solid
Analysis Batch: 19072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19039

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		01/09/25 08:11	01/09/25 10:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*35 - 166*	*01/09/25 08:11*	*01/09/25 10:07*	*1*

Lab Sample ID: LCS 885-19039/2-A
Matrix: Solid
Analysis Batch: 19072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19039

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	24.8		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*207*		*35 - 166*

Lab Sample ID: 885-18119-1 MS
Matrix: Solid
Analysis Batch: 19072

Client Sample ID: BS24-44 6.0'
Prep Type: Total/NA
Prep Batch: 19039

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	60		18.9	78.9		mg/Kg		99	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*425*	*S1+*	*35 - 166*

Lab Sample ID: 885-18119-1 MSD
Matrix: Solid
Analysis Batch: 19072

Client Sample ID: BS24-44 6.0'
Prep Type: Total/NA
Prep Batch: 19039

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	60		18.9	76.0		mg/Kg		84	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*436*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-19039/1-A
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19039

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		01/09/25 08:11	01/09/25 10:07	1
Ethylbenzene	ND		0.050		mg/Kg		01/09/25 08:11	01/09/25 10:07	1
Toluene	ND		0.050		mg/Kg		01/09/25 08:11	01/09/25 10:07	1

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18119-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-19039/1-A
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19039

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		01/09/25 08:11	01/09/25 10:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*	*01/09/25 08:11*	*01/09/25 10:07*	*1*

Lab Sample ID: LCS 885-19039/3-A
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19039

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.07		mg/Kg		107	70 - 130		
Ethylbenzene			1.00	1.11		mg/Kg		111	70 - 130		
m&p-Xylene			2.00	2.16		mg/Kg		108	70 - 130		
o-Xylene			1.00	1.07		mg/Kg		107	70 - 130		
Toluene			1.00	1.11		mg/Kg		111	70 - 130		
Xylenes, Total			3.00	3.23		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*48 - 145*

Lab Sample ID: 885-18119-2 MS
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: WS24-44 0-5'
Prep Type: Total/NA
Prep Batch: 19039

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.623	0.655		mg/Kg		105	70 - 130		
Ethylbenzene	ND		0.623	0.680		mg/Kg		109	70 - 130		
m&p-Xylene	ND		1.25	1.35		mg/Kg		107	70 - 130		
o-Xylene	ND		0.623	0.662		mg/Kg		105	70 - 130		
Toluene	ND		0.623	0.682		mg/Kg		110	70 - 130		
Xylenes, Total	ND		1.87	2.01		mg/Kg		106	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*48 - 145*

Lab Sample ID: 885-18119-2 MSD
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: WS24-44 0-5'
Prep Type: Total/NA
Prep Batch: 19039

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.623	0.644		mg/Kg		103	70 - 130	2	20
Ethylbenzene	ND		0.623	0.680		mg/Kg		109	70 - 130	0	20
m&p-Xylene	ND		1.25	1.37		mg/Kg		108	70 - 130	1	20
o-Xylene	ND		0.623	0.662		mg/Kg		105	70 - 130	0	20
Toluene	ND		0.623	0.668		mg/Kg		107	70 - 130	2	20
Xylenes, Total	ND		1.87	2.03		mg/Kg		107	70 - 130	1	20

QC Sample Results

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 885-18119-2 MSD
Matrix: Solid
Analysis Batch: 19071

Client Sample ID: WS24-44 0-5'
Prep Type: Total/NA
Prep Batch: 19039

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*108*		*48 - 145*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-19048/1-A
Matrix: Solid
Analysis Batch: 19040

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19048

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		01/09/25 09:08	01/09/25 11:24	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		01/09/25 09:08	01/09/25 11:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*85*		*62 - 134*	*01/09/25 09:08*	*01/09/25 11:24*	*1*

Lab Sample ID: LCS 885-19048/2-A
Matrix: Solid
Analysis Batch: 19040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19048

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	40.6		mg/Kg		81	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*83*		*62 - 134*

Lab Sample ID: 885-18119-7 MS
Matrix: Solid
Analysis Batch: 19040

Client Sample ID: BS24-37 8.5'
Prep Type: Total/NA
Prep Batch: 19048

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		48.0	46.7		mg/Kg		97	44 - 136		

Surrogate	MS %Recovery	MS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*

Lab Sample ID: 885-18119-7 MSD
Matrix: Solid
Analysis Batch: 19040

Client Sample ID: BS24-37 8.5'
Prep Type: Total/NA
Prep Batch: 19048

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		45.7	44.4		mg/Kg		97	44 - 136	5	32

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: Endurance Lariat Water Line

Job ID: 885-18119-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-19062/1-A
Matrix: Solid
Analysis Batch: 19109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19062

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/09/25 10:28	01/10/25 08:28	1

Lab Sample ID: LCS 885-19062/2-A
Matrix: Solid
Analysis Batch: 19109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19062

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	27.6		mg/Kg		92	90 - 110		

Lab Sample ID: MB 885-19136/1-A
Matrix: Solid
Analysis Batch: 19109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19136

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		01/10/25 11:16	01/10/25 14:17	1

Lab Sample ID: LCS 885-19136/2-A
Matrix: Solid
Analysis Batch: 19109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19136

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.4		mg/Kg		95	90 - 110		

Lab Sample ID: MRL 885-19195/3
Matrix: Solid
Analysis Batch: 19195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.525		mg/L		105	50 - 150		

QC Association Summary

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

GC VOA

Prep Batch: 19039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	5035	
885-18119-2	WS24-44 0-5'	Total/NA	Solid	5035	
885-18119-3	WS24-45 5-9'	Total/NA	Solid	5035	
885-18119-4	WS24-47 7-8'	Total/NA	Solid	5035	
885-18119-5	WS24-48 0-4'	Total/NA	Solid	5035	
885-18119-6	BS24-21 6.0'	Total/NA	Solid	5035	
885-18119-7	BS24-37 8.5'	Total/NA	Solid	5035	
MB 885-19039/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-19039/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-19039/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-18119-1 MS	BS24-44 6.0'	Total/NA	Solid	5035	
885-18119-1 MSD	BS24-44 6.0'	Total/NA	Solid	5035	
885-18119-2 MS	WS24-44 0-5'	Total/NA	Solid	5035	
885-18119-2 MSD	WS24-44 0-5'	Total/NA	Solid	5035	

Analysis Batch: 19071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	8021B	19039
885-18119-2	WS24-44 0-5'	Total/NA	Solid	8021B	19039
885-18119-3	WS24-45 5-9'	Total/NA	Solid	8021B	19039
885-18119-4	WS24-47 7-8'	Total/NA	Solid	8021B	19039
885-18119-5	WS24-48 0-4'	Total/NA	Solid	8021B	19039
885-18119-6	BS24-21 6.0'	Total/NA	Solid	8021B	19039
885-18119-7	BS24-37 8.5'	Total/NA	Solid	8021B	19039
MB 885-19039/1-A	Method Blank	Total/NA	Solid	8021B	19039
LCS 885-19039/3-A	Lab Control Sample	Total/NA	Solid	8021B	19039
885-18119-2 MS	WS24-44 0-5'	Total/NA	Solid	8021B	19039
885-18119-2 MSD	WS24-44 0-5'	Total/NA	Solid	8021B	19039

Analysis Batch: 19072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	8015D	19039
885-18119-2	WS24-44 0-5'	Total/NA	Solid	8015D	19039
885-18119-3	WS24-45 5-9'	Total/NA	Solid	8015D	19039
885-18119-4	WS24-47 7-8'	Total/NA	Solid	8015D	19039
885-18119-5	WS24-48 0-4'	Total/NA	Solid	8015D	19039
885-18119-6	BS24-21 6.0'	Total/NA	Solid	8015D	19039
885-18119-7	BS24-37 8.5'	Total/NA	Solid	8015D	19039
MB 885-19039/1-A	Method Blank	Total/NA	Solid	8015D	19039
LCS 885-19039/2-A	Lab Control Sample	Total/NA	Solid	8015D	19039
885-18119-1 MS	BS24-44 6.0'	Total/NA	Solid	8015D	19039
885-18119-1 MSD	BS24-44 6.0'	Total/NA	Solid	8015D	19039

GC Semi VOA

Analysis Batch: 19040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	8015D	19048
885-18119-2	WS24-44 0-5'	Total/NA	Solid	8015D	19048
885-18119-6	BS24-21 6.0'	Total/NA	Solid	8015D	19048
885-18119-7	BS24-37 8.5'	Total/NA	Solid	8015D	19048

QC Association Summary

Client: Vertex Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

GC Semi VOA (Continued)

Analysis Batch: 19040 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-19048/1-A	Method Blank	Total/NA	Solid	8015D	19048
LCS 885-19048/2-A	Lab Control Sample	Total/NA	Solid	8015D	19048
885-18119-7 MS	BS24-37 8.5'	Total/NA	Solid	8015D	19048
885-18119-7 MSD	BS24-37 8.5'	Total/NA	Solid	8015D	19048

Prep Batch: 19048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	SHAKE	
885-18119-2	WS24-44 0-5'	Total/NA	Solid	SHAKE	
885-18119-3	WS24-45 5-9'	Total/NA	Solid	SHAKE	
885-18119-4	WS24-47 7-8'	Total/NA	Solid	SHAKE	
885-18119-5	WS24-48 0-4'	Total/NA	Solid	SHAKE	
885-18119-6	BS24-21 6.0'	Total/NA	Solid	SHAKE	
885-18119-7	BS24-37 8.5'	Total/NA	Solid	SHAKE	
MB 885-19048/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-19048/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-18119-7 MS	BS24-37 8.5'	Total/NA	Solid	SHAKE	
885-18119-7 MSD	BS24-37 8.5'	Total/NA	Solid	SHAKE	

Analysis Batch: 19115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-3	WS24-45 5-9'	Total/NA	Solid	8015D	19048
885-18119-4	WS24-47 7-8'	Total/NA	Solid	8015D	19048
885-18119-5	WS24-48 0-4'	Total/NA	Solid	8015D	19048

HPLC/IC

Prep Batch: 19062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	300_Prep	
885-18119-2	WS24-44 0-5'	Total/NA	Solid	300_Prep	
885-18119-3	WS24-45 5-9'	Total/NA	Solid	300_Prep	
MB 885-19062/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19062/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-2	WS24-44 0-5'	Total/NA	Solid	300.0	19062
885-18119-4	WS24-47 7-8'	Total/NA	Solid	300.0	19136
885-18119-5	WS24-48 0-4'	Total/NA	Solid	300.0	19136
885-18119-7	BS24-37 8.5'	Total/NA	Solid	300.0	19136
MB 885-19062/1-A	Method Blank	Total/NA	Solid	300.0	19062
MB 885-19136/1-A	Method Blank	Total/NA	Solid	300.0	19136
LCS 885-19062/2-A	Lab Control Sample	Total/NA	Solid	300.0	19062
LCS 885-19136/2-A	Lab Control Sample	Total/NA	Solid	300.0	19136

Prep Batch: 19136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-4	WS24-47 7-8'	Total/NA	Solid	300_Prep	
885-18119-5	WS24-48 0-4'	Total/NA	Solid	300_Prep	
885-18119-6	BS24-21 6.0'	Total/NA	Solid	300_Prep	

QC Association Summary

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

HPLC/IC (Continued)

Prep Batch: 19136 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-7	BS24-37 8.5'	Total/NA	Solid	300_Prep	
MB 885-19136/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-19136/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 19195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-18119-1	BS24-44 6.0'	Total/NA	Solid	300.0	19062
885-18119-3	WS24-45 5-9'	Total/NA	Solid	300.0	19062
885-18119-6	BS24-21 6.0'	Total/NA	Solid	300.0	19136
MRL 885-19195/3	Lab Control Sample	Total/NA	Solid	300.0	

Lab Chronicle

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-44 6.0'
Lab Sample ID: 885-18119-1
Date Collected: 01/06/25 10:00
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 08:11
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 11:41
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 08:11
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 11:41
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 16:19
Total/NA	Prep	300_Prep			19062	ES	EET ALB	01/09/25 10:28
Total/NA	Analysis	300.0		100	19195	JT	EET ALB	01/13/25 13:39

Client Sample ID: WS24-44 0-5'
Lab Sample ID: 885-18119-2
Date Collected: 01/06/25 10:10
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 08:11
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 12:05
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 08:11
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 12:05
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 16:30
Total/NA	Prep	300_Prep			19062	ES	EET ALB	01/09/25 10:28
Total/NA	Analysis	300.0		20	19109	RC	EET ALB	01/10/25 13:57

Client Sample ID: WS24-45 5-9'
Lab Sample ID: 885-18119-3
Date Collected: 01/06/25 10:20
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 12:29
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 12:29
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		2	19115	MI	EET ALB	01/10/25 10:13
Total/NA	Prep	300_Prep			19062	ES	EET ALB	01/09/25 10:28
Total/NA	Analysis	300.0		50	19195	JT	EET ALB	01/13/25 13:50

Client Sample ID: WS24-47 7-8'
Lab Sample ID: 885-18119-4
Date Collected: 01/06/25 13:20
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 14:51

Lab Chronicle

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: WS24-47 7-8'
Lab Sample ID: 885-18119-4
Date Collected: 01/06/25 13:20
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 14:51
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19115	MI	EET ALB	01/10/25 14:04
Total/NA	Prep	300_Prep			19136	JT	EET ALB	01/10/25 11:16
Total/NA	Analysis	300.0		20	19109	RC	EET ALB	01/10/25 14:56

Client Sample ID: WS24-48 0-4'
Lab Sample ID: 885-18119-5
Date Collected: 01/06/25 13:30
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 13:16
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 13:16
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19115	MI	EET ALB	01/10/25 14:15
Total/NA	Prep	300_Prep			19136	JT	EET ALB	01/10/25 11:16
Total/NA	Analysis	300.0		20	19109	RC	EET ALB	01/10/25 15:06

Client Sample ID: BS24-21 6.0'
Lab Sample ID: 885-18119-6
Date Collected: 01/07/25 10:25
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 13:40
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 13:40
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 17:12
Total/NA	Prep	300_Prep			19136	JT	EET ALB	01/10/25 11:16
Total/NA	Analysis	300.0		50	19195	JT	EET ALB	01/13/25 14:00

Client Sample ID: BS24-37 8.5'
Lab Sample ID: 885-18119-7
Date Collected: 01/07/25 14:35
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8015D		1	19072	JP	EET ALB	01/09/25 14:03
Total/NA	Prep	5035			19039	JP	EET ALB	01/09/25 09:57
Total/NA	Analysis	8021B		1	19071	JP	EET ALB	01/09/25 14:03

Lab Chronicle

Client: Vertex
Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Client Sample ID: BS24-37 8.5'
Lab Sample ID: 885-18119-7
Date Collected: 01/07/25 14:35
Matrix: Solid
Date Received: 01/09/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			19048	EM	EET ALB	01/09/25 09:48
Total/NA	Analysis	8015D		1	19040	MI	EET ALB	01/09/25 17:23
Total/NA	Prep	300_Prep			19136	JT	EET ALB	01/10/25 11:16
Total/NA	Analysis	300.0		20	19109	RC	EET ALB	01/10/25 15:25

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-18119-1
Project/Site: Endurance Lariat Water Line

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

Released to Imaging: 5/16/2025 10:00:05 AM
Received by OCD: 3/19/2025 9:55:55 AM

Chain-of-Custody Record

Client: Vertex (Bill to Solaris)

Mailing Address: 3101 Boyd Dr
Carlsbad, NM 88220

Phone #: 575-725-5001

email or Fax#: On File

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24hr

Project Name: Endurance Lariat Water Line

Project #: 24E-03247

Project Manager: Chance Dixon

Sampler: AL

On Ice: ☐ Yes ☐ No

# of Coolers: 1 Yoni

Cooler Temp(including CF): 1.2-0=1.2 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109 885-18119 COC
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
01.06.25	1000	Soil	BS24-44 6.0'	4oz	ICE	1										
	1010		WS24-44 0-5'			2										
	1020		WS24-45 5-9'			3										
	1320		WS24-47 7-8'			4										
	1330		WS24-48 0-4'			5										
01.07.25	1025		BS24-21 6.0'			6										
	1435		BS24-37 8.5'			7										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1/8/25	945				1/8/25	945
1/8/25	1900			courier	1/9/25	8:05

Remarks: Bill to Solaris (Rob Kirk)
cc: cdixon@vertexresource.com
ALudvik@vertexresource.com

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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-18119-1

Login Number: 18119 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: McQuiston, Steven

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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

QUESTIONS

Operator: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 443843
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2320940667**
Incident Name	**NAPP2320940667 ENDURANCE LARIAT WATER LINE @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Reclamation Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	ENDURANCE LARIAT WATER LINE
Date Release Discovered	07/27/2023
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Equipment Failure | Pipeline (Any) | Produced Water | Released: 210 BBL | Recovered: 40 BBL | Lost: 170 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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QUESTIONS (continued)

Operator: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 443843
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.

Initial Response	
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: Julian Romero Title: Environmental Advisor Email: julian.romero@ariswater.com Date: 10/10/2024

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QUESTIONS (continued)

Operator: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 443843
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

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 100 and 500 (ft.)
What method was used to determine the depth to ground water	Direct Measurement
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	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (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	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

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)	3200
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	82300
GRO+DRO (EPA SW-846 Method 8015M)	56300
BTEX (EPA SW-846 Method 8021B or 8260B)	15.7
Benzene (EPA SW-846 Method 8021B or 8260B)	0.3
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	01/08/2025
On what date will (or did) the final sampling or liner inspection occur	01/08/2025
On what date will (or was) the remediation complete(d)	02/08/2025
What is the estimated surface area (in square feet) that will be reclaimed	19914
What is the estimated volume (in cubic yards) that will be reclaimed	4350
What is the estimated surface area (in square feet) that will be remediated	19914
What is the estimated volume (in cubic yards) that will be remediated	4350
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: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 443843
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

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	OWL LANDFILL JAL [fJEG1635837366]
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: Lauren Bean Title: Senior Engineering Tech Email: lauren.bean@ariswater.com Date: 03/19/2025
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: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 443843
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

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)

Operator: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 443843
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**425318**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**01/31/2025**
What was the (estimated) number of samples that were to be gathered	**80**
What was the sampling surface area in square feet	**20000**

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	22171
What was the total volume (cubic yards) remediated	8200
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	22171
What was the total volume (in cubic yards) reclaimed	8200
Summarize any additional remediation activities not included by answers (above)	Site was remediated to >100' reclamation criteria with the top four feet meeting strictest criteria.

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: Lauren Bean Title: Senior Engineering Tech Email: lauren.bean@ariswater.com Date: 03/19/2025

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS (continued)

Operator: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 443843
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	Yes
What was the total reclamation surface area (in square feet) for this site	22171
What was the total volume of replacement material (in cubic yards) for this site	8200
Per Paragraph (1) of Subsection D of 19.15.29.13 NMAC the reclamation must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division. The soil cover must include a 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.	
Is the soil top layer complete and is it suitable material to establish vegetation	Yes
On what (estimated) date will (or was) the reseeding commence(d)	02/12/2025
Summarize any additional reclamation activities not included by answers (above)	Site was remediated to >100' reclamation criteria with the top four feet meeting strictest criteria.
The responsible party must attach information demonstrating they have complied with all applicable reclamation requirements and any conditions or directives of the OCD. This demonstration should be in the form of attachments (in .pdf format) including a scaled site map, any proposed reseeding plans or relevant field notes, photographs of reclaimed area, and a narrative of the reclamation activities. Refer to 19.15.29.13 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: Lauren Bean Title: Senior Engineering Tech Email: lauren.bean@ariswater.com Date: 03/19/2025

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QUESTIONS (continued)

Operator: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 443843
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Revegetation Report	
Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied.	
Requesting a restoration complete approval with this submission	No
Per Paragraph (4) of Subsection (D) of 19.15.29.13 NMAC for any major or minor release containing liquids, the responsible party must notify the division when reclamation and re-vegetation are complete.	

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CONDITIONS

Operator: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 443843
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	5/16/2025