Incident Number: nAPP2331041267

Release Assessment and Closure

James Ranch Unit DI 1A CTB

Section 21, Township 22 South, Range 30 East

County: Eddy

Vertex File Number: 23E-04616

Prepared for:
XTO Energy

Prepared by:
Vertex Resource Services Inc.

Date:
April 2024

Release Assessment and Closure
James Ranch Unit DI 1A CTB
Section 21, Township 22 South, Range 30 East
County: Eddy

Prepared for:
XTO Energy
3104 E. Greene Street
Carlsbad, New Mexico 88220

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

Prepared by:
Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad, New Mexico 882

Chance Dixon
Chance Dixon, B.Sc.
PROJECT MANAGER, REPORT REVIEW

6/19/2024
Date

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1.0 Introduction

XTO Energy (XTO) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water release that occurred on October 26, 2023, at James Ranch Unit DI 1A CTB (hereafter referred to as the "site"). XTO submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on November 6, 2023. Incident ID number nAPP2331041267 was assigned to this incident.

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

2.0 Incident Description

The release occurred on October 26, 2023, due to corrosion of the 8" CS main produced water line resulting in a release of fluids to the pad. The incident was reported on November 6, 2023, and involved the release of approximately 9.45 barrels (bbl.) of produced water on the pad site. Approximately 7 bbl. of free fluid was removed during the initial spill cleanup. Additional details relevant to the release are presented in the C-141 Report.

3.0 Site Characteristics

The site is located approximately 64 miles southeast of Carlsbad, New Mexico (Google Inc., 2024). The legal location for the site is Section 21, Township 22 South and Range 30 East in Eddy County, New Mexico. The release area is located on State property. An aerial photograph and site schematic are presented in Figure 1.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2024) indicates the site's surface geology primarily comprises Qp - Piedmont alluvial deposits (Holocene to lower Pleistocene) and is characterized as deposits of higher gradient tributaries bordering major stream valleys, alluvial veneers of the piedmont slope, and alluvial fans. The soil at the site is characterized as fine-silty and calcareous (United States Department of Agriculture, Natural Resources Conservation Service, 2024). The predominant soil texture on the site is loamy fine sand. Additional soil characteristics include a drainage class of well drained with a low runoff class. The karst geology potential for the site is high (United States Department of the Interior, Bureau of Land Management, 2018).

The location is typical of oil and gas exploration and production sites in the Permian Basin and is currently used for oil and gas production and storage. The following sections specifically describe the release area on or in proximity to the constructed pad (Figure 1).

The surrounding landscape is associated with Largo loam with elevations ranging between 2,000 and 5,700 feet. The climate is semiarid with average annual precipitation ranging between 6 and 24 inches. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be black grama, blue grama, sideoats grama, bush muhly, tobosa grass, vine mesquite, mesquite, and creosotebush. Grasses with shrubs and

half-shrubs dominate the historic plant community (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Limited to no vegetation is allowed to grow on the compacted production pad, right-of-way and access road.

4.0 Closure Criteria Determination

The nearest active well to the site is a New Mexico Office of the State Engineer (NMOSE) monitoring well located approximately 0.23 miles southeast of the location (United States Geological Survey, 2024). Data from 2013 show the NMOSE borehole recorded a depth to groundwater of 575 feet below ground surface (bgs). Information pertaining to the depth to ground water determination is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is Linsey Lake located approximately 1.5 miles west of the site (United States Fish and Wildlife Service, 2024).

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

Table 1. Closure Criteria Worksheet			
Site Name: James Ranch Unit DI 1A CTB			
Spill Coordinates: 32.38001, -103.88664		**X: 604730**	**Y: 3583103**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater	**110**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	912	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	8,198	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	9,724	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**	1,221	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	7,337	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	**High**	Critical High Medium Low
10	Within a 100-year Floodplain	500	year
11	Soil Type	Largo Loam, 1 to 5 percent slopes	
12	Ecological Classification	Loamy-R070BC007NM	
13	Geology	Qp	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 2.

Table 2. Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids
TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics
BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Remedial Actions Taken

An initial site inspection of the release area was completed on January 12, 2024, which identified the area of the release specified in the initial C-141 Report. The impacted area was determined to be approximately 90 feet long and 104 feet wide; the total affected area was 3,955 square feet.

Remediation efforts began on March 8, 2024, and were finalized on May 28, 2024. Vertex personnel supervised the excavation of impacted soils. Field screening consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and Quantabs (chlorides). Field screening results were used to identify areas requiring further remediation. Soils were removed to a depth of 0.5 to 3 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Photographs documenting final excavation before the backfill are included in Appendix C. Initial characterization results are presented in Table 3.

Notification that confirmatory samples were being collected was provided to the NMOCD on March 1, 2024, and can be located on NMOCD Permitting. Confirmatory composite samples were collected from the base and walls of the excavation in 200 square foot increments. Samples were collected for laboratory analysis following NMOCD soil sampling procedures. They were submitted to Eurofins Environmental Testing 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). Laboratory results are presented in Table 4, and the laboratory data reports are included in Appendix E. All confirmatory samples collected and analyzed were below closure criteria for the site.

6.0 Closure Request

The release area was fully delineated, remediated, and backfilled with local soils by June 10, 2024. Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release locations “under 50 feet to groundwater”. Based on these findings, XTO Energy requests that this release be closed.

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

7.0 References

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United States Geological Survey. (2024). *National Water Information System: Web Interface*. Retrieved from https://waterdata.usgs.gov/nwis

8.0 Limitations

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

FIGURE

- Base Sample (Excavated) (Prefixed by "BES24-")
- Wall Sample (Excavated) (Prefixed by "WES24-")
- Pipeline (Aboveground)
- Pipeline (Underground)
- Excavation to 2.5' bgs (~ 476 sq.ft.)
- Excavation to 3' bgs (~ 247 sq.ft.)
- Excavation to 2' bgs (~ 584 sq.ft.)
- Excavation to 2' bgs (~ 161 sq.ft.)
- South Excavation to 0.5' bgs (~1,985 sq.ft.)

VERTEX

0 5 10 20 ft

NAD 1983 UTM Zone 13N
Date: Jun 18/24

Map Center:
Lat: 32.379853,
Long:-103.886528

N

Confirmatory Sampling Site Schematic
JRU DI 1A CTB

FIGURE: 1

XTO ENERGY

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

Note: Image from Google Earth Pro, 2023. Point features and excavations from GPS by Vertex Professional Services Ltd, 2024.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\XTO Energy\23E-04616 - JRU DI 1A CTB\PH2_ Figure 2 Confirmatory Sampling Site Schematic South (23E-04616)\D18676.mxd

Table

Client Name: XTO Energy
Site Name: JRU DI 1A CTB
NMOCD Tracking #: nAPP2331041267
Project #: 23E-04616
Lab Reports: 885-990-1, 885-1287-1, 885-1289-1, 885-1341-1, 885-2783-1, 885-3429-1, 885-3547-1, 885-5373-1, 885-4276-1,

Table 3. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BES24-01	2	March 8, 2024	ND	22	205	ND	ND	ND	ND	ND	ND	ND	290
BES24-02	0.5	March 8, 2024	ND	15	317	ND	ND	ND	ND	ND	ND	ND	190
BES24-03	0.5	March 8, 2024	ND	15	317	ND	ND	ND	ND	ND	ND	ND	390
BES24-04	0.5	March 8, 2024	ND	13	370	ND	ND	ND	ND	ND	ND	ND	150
BES24-05	2	March 8, 2024	ND	32	298	ND	ND	ND	ND	ND	ND	ND	94
BES24-06	2	March 12, 2024	ND	12	420	ND	ND	ND	ND	ND	ND	ND	110
BES24-07	3	May 8, 2024	ND	97	475	ND	ND	ND	ND	ND	ND	ND	160
BES24-08	2	March 12, 2024	ND	8	520	ND	ND	ND	ND	ND	ND	ND	120
BES24-09	0.5	March 12, 2024	ND	15	320	ND	ND	ND	ND	ND	ND	ND	93
BES24-10	0.5	March 12, 2024	ND	30	360	ND	ND	ND	ND	ND	ND	ND	98
BES24-11	0.5	March 12, 2024	ND	32	408	ND	ND	ND	ND	ND	ND	ND	110
BES24-12	0.5	March 12, 2024	ND	27	372	ND	ND	ND	ND	ND	ND	ND	90
BES24-13	0.5	March 12, 2024	ND	15	570	ND	ND	ND	ND	ND	ND	ND	89
BES24-14	0.5	March 12, 2024	ND	20	420	ND	ND	ND	ND	ND	ND	ND	100
BES24-15	0.5	March 13, 2024	ND	68	**650**	ND	ND	ND	ND	ND	ND	ND	410
BES24-16	2.5	May 8, 2024	ND	40	198	ND	ND	ND	ND	ND	ND	ND	ND
BES24-17	2	April 23, 2024	ND	37	354	ND	ND	ND	ND	ND	ND	ND	240
BES24-18	0.5	March 12, 2024	ND	23	475	ND	ND	ND	ND	ND	ND	ND	110
BES24-19	0.5	March 12, 2024	ND	12	382	ND	ND	ND	ND	ND	ND	ND	130
BES24-19	2	May 28, 2024	ND	**105**	486	ND	ND	ND	ND	ND	ND	ND	ND
BES24-20	0.5	March 12, 2024	ND	7	280	ND	ND	ND	ND	ND	ND	ND	120
BES24-20	2	May 28, 2024	ND	**121**	400	ND	ND	ND	ND	ND	ND	ND	ND
BES24-21	2.5	May 8, 2024	ND	47	200	ND	ND	ND	ND	ND	ND	ND	ND
WES24-01	2	March 8, 2024	ND	32	298	ND	ND	ND	ND	ND	ND	ND	290
WES24-02	2	March 12, 2024	ND	42	520	ND	ND	ND	ND	ND	ND	ND	140
WES24-04	2	March 13, 2024	ND	87	405	ND	ND	ND	ND	ND	ND	ND	200
WES24-05	0-0.5	March 13, 2024	ND	27	372	ND	ND	ND	ND	ND	ND	ND	150
WES24-06	0-2	March 14, 2024	ND	27	450	ND	ND	ND	ND	ND	ND	ND	160
WES24-07	0.5	March 14, 2024	ND	37	**610**	ND	ND	ND	ND	ND	ND	ND	320
WES24-10	0-2	April 9, 2024	ND	38	295	ND	ND	ND	ND	ND	ND	ND	100
WES24-15	0-2	March 8, 2024	ND	51	205	ND	ND	ND	ND	ND	ND	ND	ND
WES24-16	0-2	March 8, 2024	ND	58	193	ND	ND	ND	ND	ND	ND	ND	ND
WES24-17	0-3	March 8, 2024	ND	67	145	ND	ND	ND	ND	ND	ND	ND	ND
WES24-18	0-2.5	March 8, 2024	ND	71	158	ND	ND	ND	ND	ND	ND	ND	ND
WES24-25	0-0.5	May 28, 2024	ND	**147**	475	ND	ND	ND	ND	ND	ND	ND	ND

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

APPENDIX A

NMOCD C-141 REPORT

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2331041267
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Garrett Green	Contact Telephone 575-200-0729
Contact email garrett.green@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 3104 E. Greene Street, Carlsbad, New Mexico, 88220	

Location of Release Source

Latitude 32.37986 Longitude -103.88668

(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit DI 1A Tank Battery	Site Type Tank Battery
Date Release Discovered 10/26/2023	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
F	21	22S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 9.45	Volume Recovered (bbls) 7.00
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Internal corrosion caused a 8" CS main PW line to release fluids to pad. A vac truck recovered all free fluids. A third-party contractor has been retained for remediation purposes.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2331041267
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

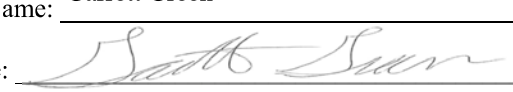
If all the actions described above have not been undertaken, explain why:

NA

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

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

Printed Name: Garrett Green Title: Environmental Coordinator

Signature:  Date: 11/6/2023

email: garrett.green@exxonmobil.com Telephone: 575-200-0729

OCD Only

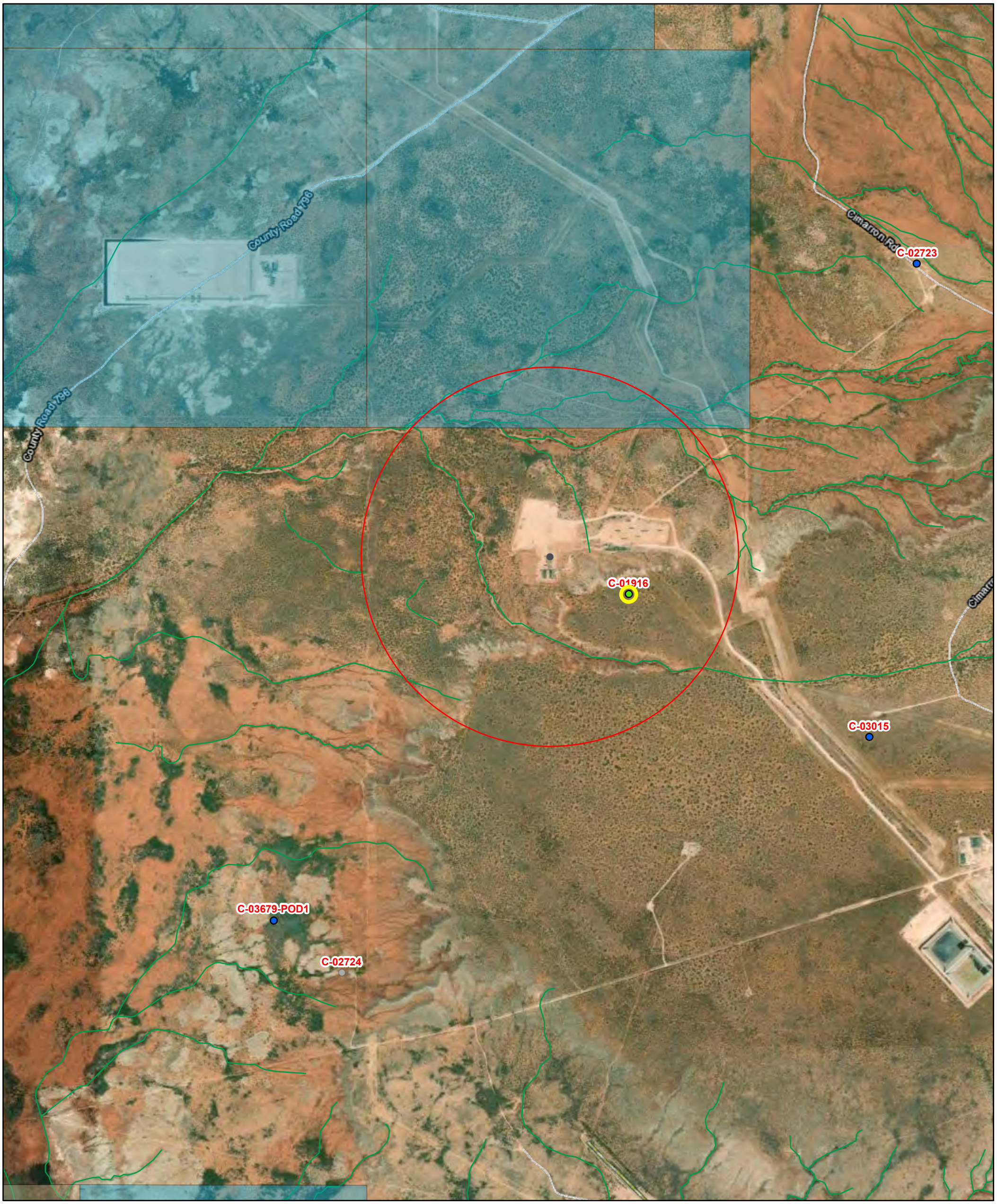
Received by: _____ Date: _____

Location:	James Ranch Unit DI 1A	
Spill Date:	10/26/2023	
Area 1		
Approximate Area =	5499.00	sq. ft.
Average Saturation (or depth) of spill =	1.00	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	9.45	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**9.45**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**7.00**	**bbls**

APPENDIX B

CLOSURE CRITERIA RESEARCH DOCUMENTATION

JRU DI 1A CTB 0.5-Mile Radius



6/20/2024, 8:59:33 AM

GIS WATERS PODs
- Active
- Pending
- OSE District Boundary

Water Right Regulations
- Artesian Planning Area

New Mexico State Trust Lands
- Subsurface Estate
- Both Estates

NHD Flowlines
- Connector
- Stream River

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Esri, HERE, iPC, Esri, HERE, Garmin, iPC, Maxar

Online web user
This is an unofficial map from the OSE's online application.

WELL PLUGGING PLAN OF OPERATIONS

NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP:

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: C 01916

Name of well owner: BOPCO L.P.

Mailing address: P.O. Box 2760

City: Midland State: Texas Zip code: 79702

Phone number: 432- 556 -8730 E-mail: TASavoie@Basspet.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Straub Corporation – Raymond Straub

New Mexico Well Driller License No.: WD-1478 Expiration Date: June-2013

IV. WELL INFORMATION:

Note: A copy of the existing Well Record for the well to be plugged should be attached to this plan.

STATE ENGINEER OFFICE ROSWELL 2013 APR -1 P 1:19

1) GPS Well Location: Latitude: 32 deg, 22 min, 54.42 sec
Longitude: -103 deg, 53 min, 00.57 sec, NAD 83

2) Reason(s) for plugging well: Water well is in the path of new construction. Water quality is below useable quality.

3) Was well used for any type of monitoring program? NO If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? YES If yes, provide additional detail, including analytical results and/or laboratory report(s): See Attachments

5) Static water level: ~ 110 feet below land surface / feet above land surface (circle one)

6) Depth of the well: 188 feet

C-1916
4167710

U.S. Fish and Wildlife Service
National Wetlands Inventory

JRU DI 1A CTB watercourse 912 ft

August 28, 2023

Wetlands

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

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

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

James Ranch Unit DI 1A CTB Lake

August 3, 2023

Wetlands

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

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

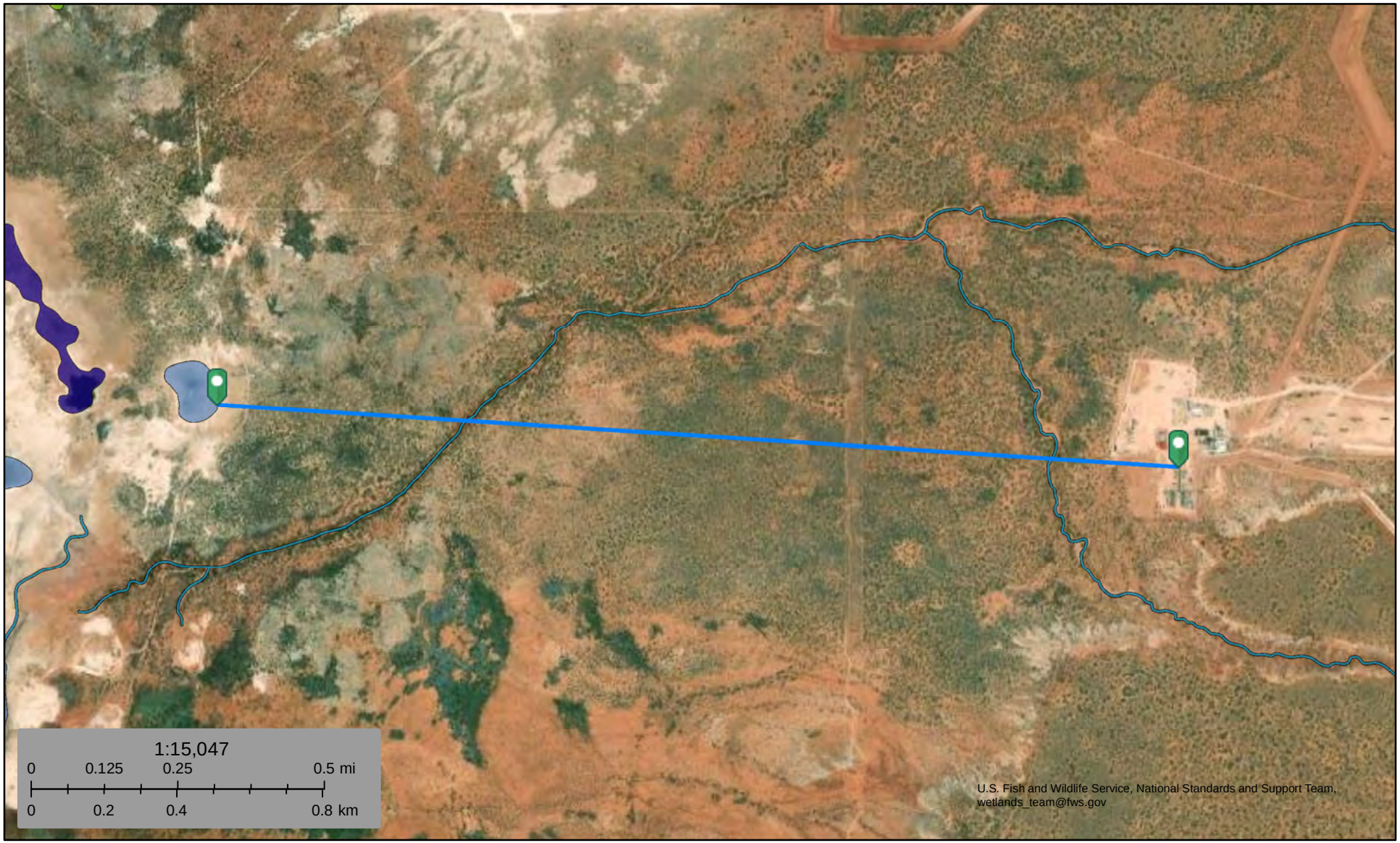
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

James Ranch Unit DI 1A CTB

Nearest Occupied Residence: 1.84mi

U.S. Fish and Wildlife Service
National Wetlands Inventory

James Ranch Unit DI 1A CTB Wetland



August 3, 2023

Wetlands

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

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

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

James Ranch Unit DI 1A CTB Mine

8/3/2023, 1:22:37 PM

1:9,028

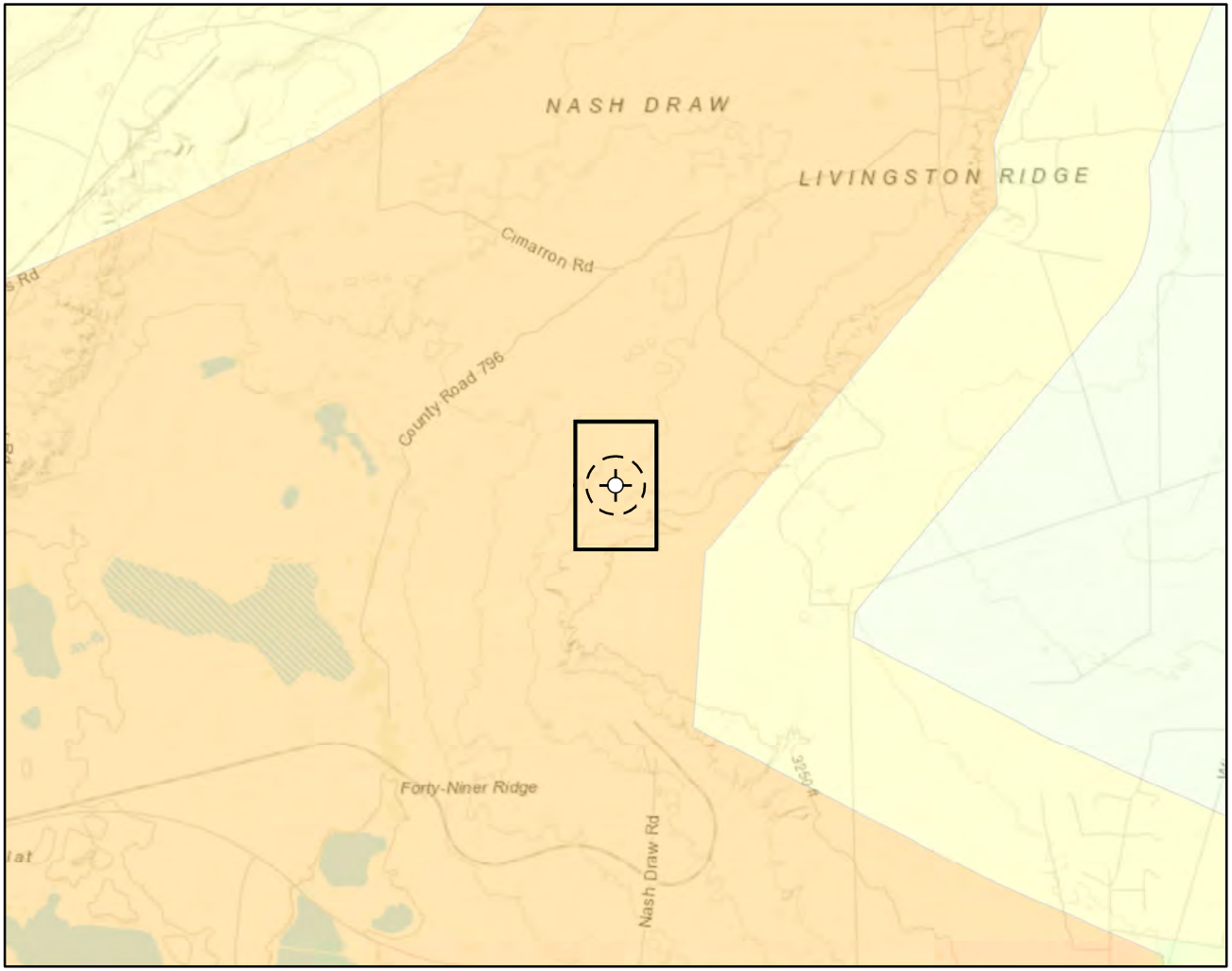
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Esri, HERE, Garmin, iPC, Maxar

EMNRD MMD GIS Coordinator

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



Karst Potential

- Critical
- High
- Medium
- Low

Site Location

Buffer Location (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft

VERTEX

Map Center:
Lat/Long: 32.380010, -103.886640

NAD 1983 UTM Zone 13N
Date: Aug 03/23

N

Karst Potential Map
James Ranch Unit DI 1A CTB

FIGURE:
X

XTO ENERGY

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

Note: Inset Map, ESRI 2022; Overview Map: ESRI World Topographic. Karst potential data sourced from Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\XTO Energy\23E-04616 - JRU DI 1A CTB\Figure X Karst Potential Map (23E-04616).mxd

National Flood Hazard Layer FIRMette

FEMA

103°53'31"W 32°23'3"N

103°52'53"W 32°22'33"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

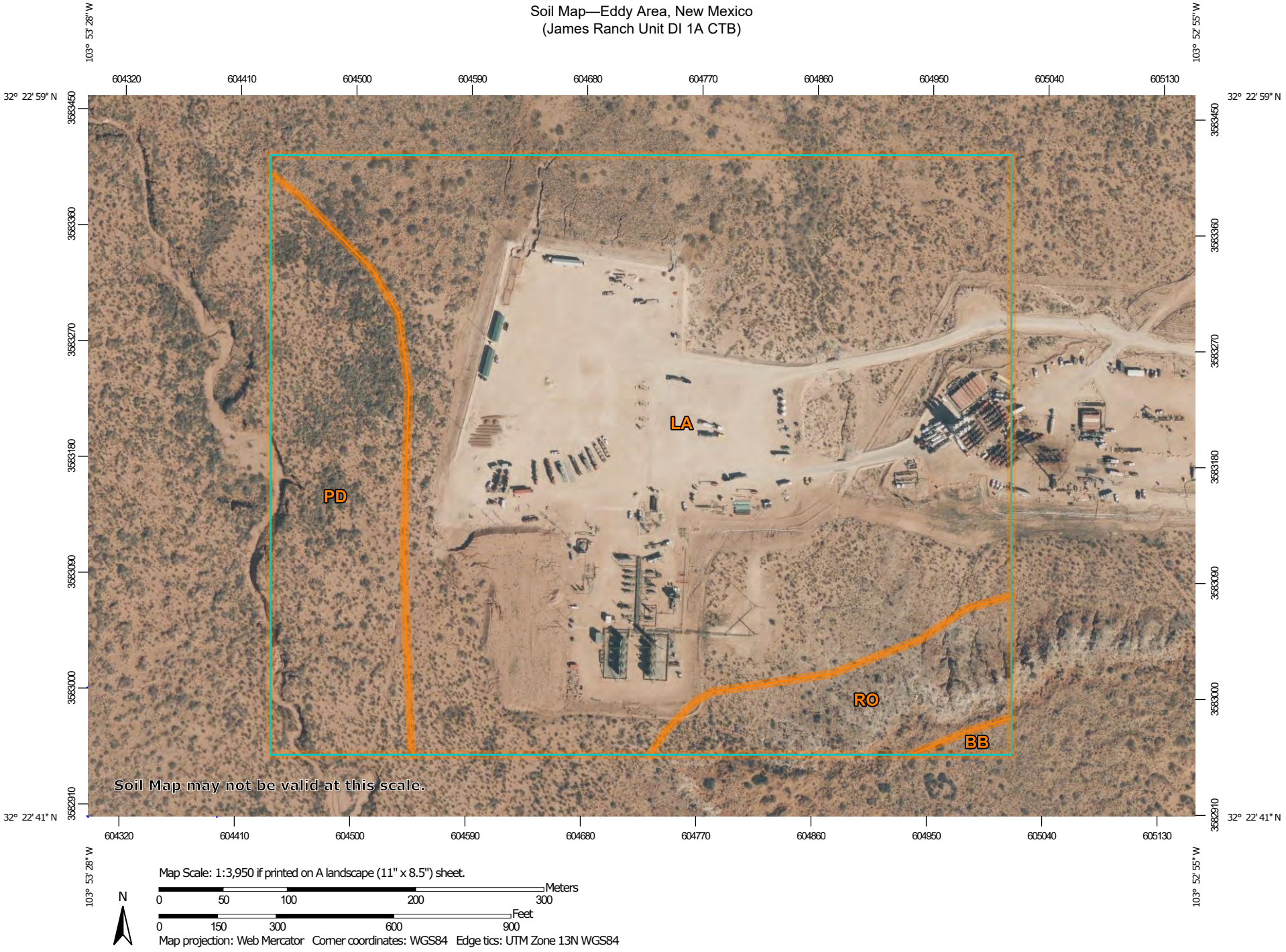
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 8/3/2023 at 3:23 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.

Soil Map—Eddy Area, New Mexico
(James Ranch Unit DI 1A CTB)



Map Scale: 1:3,950 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 150 300 600 900

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

Eddy Area, New Mexico

BB—Berino complex, 0 to 3 percent slopes, eroded

Map Unit Setting

National map unit symbol: 1w43
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 5 to 15 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Berino and similar soils: 60 percent
Pajarito and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berino

Setting

Landform: Plains, fan piedmonts
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 17 inches: fine sand
H2 - 17 to 58 inches: sandy clay loam
H3 - 58 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

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

Description of Pajarito

Setting

Landform: Dunes, plains, interdunes
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 72 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: Very low
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: 40 percent
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Pajarito

Percent of map unit: 4 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Wink

Percent of map unit: 4 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Cacique

Percent of map unit: 4 percent
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

Kermit

Percent of map unit: 3 percent
Ecological site: R070BD005NM - Deep Sand
Hydric soil rating: No

LA—Largo loam, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1w4y
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 6 to 14 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Largo and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Largo

Setting

Landform: Plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Calcareous alluvium

Typical profile

H1 - 0 to 4 inches: loam
H2 - 4 to 47 inches: silt loam
H3 - 47 to 65 inches: loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R070BC007NM - Loamy

Hydric soil rating: No

Minor Components

Largo

Percent of map unit: 1 percent
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

Pajarito

Percent of map unit: 1 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

PD—Pajarito-Dune land complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w55
Elevation: 3,000 to 5,000 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 190 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Pajarito and similar soils: 46 percent
Dune land: 45 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pajarito

Setting

Landform: Plains, interdunes, dunes
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 36 inches: fine sandy loam
H3 - 36 to 72 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: Very low
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: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups
Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Description of Dune Land

Setting
Landform: Dune fields
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile
H1 - 0 to 6 inches: sandy loam
H2 - 6 to 60 inches: sandy loam

Interpretive groups
Land capability classification (irrigated): None specified
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Rock outcrop
Percent of map unit: 5 percent
Hydric soil rating: No

Largo
Percent of map unit: 4 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

RO—Rock land

Map Unit Setting
National map unit symbol: 1w5h
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 6 to 24 inches

Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock land: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Land

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Pajarito

Percent of map unit: 1 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Simona

Percent of map unit: 1 percent
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Potter

Percent of map unit: 1 percent
Ecological site: R070BC025NM - Shallow
Hydric soil rating: No

Soil Map—Eddy Area, New Mexico
(James Ranch Unit DI 1A CTB)

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

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

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

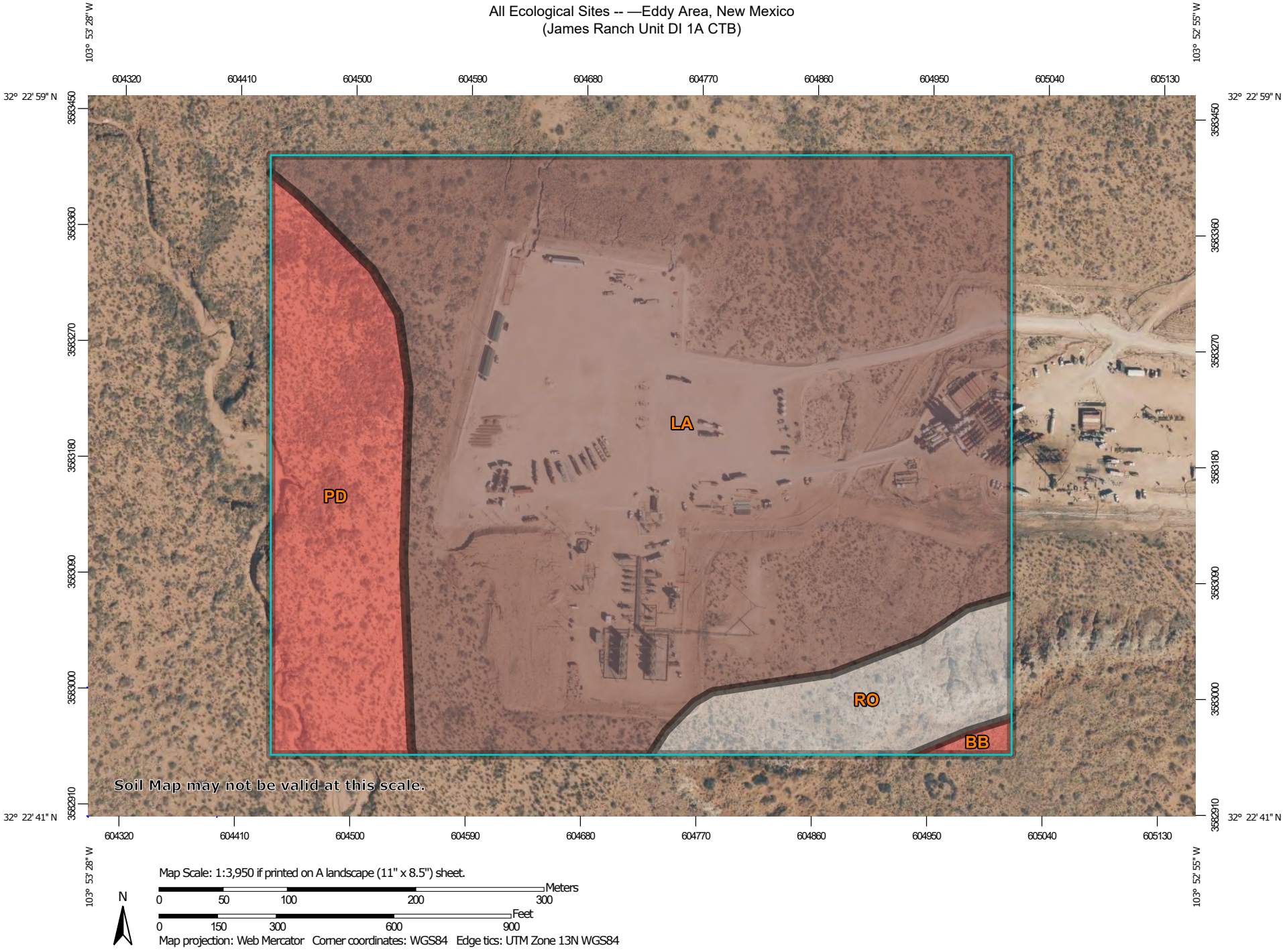
Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BB	Berino complex, 0 to 3 percent slopes, eroded	0.3	0.4%
LA	Largo loam, 1 to 5 percent slopes	51.4	76.9%
PD	Pajarito-Dune land complex, 0 to 3 percent slopes	10.5	15.8%
RO	Rock land	4.6	6.9%
Totals for Area of Interest		**66.8**	**100.0%**

All Ecological Sites -- —Eddy Area, New Mexico
(James Ranch Unit DI 1A CTB)



Map Scale: 1:3,950 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 150 300 600 900

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

MAP LEGEND

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

Soils

Soil Rating Polygons
- R070BC007NM
- R070BD003NM
- Not rated or not available

Soil Rating Lines
- R070BC007NM
- R070BD003NM
- Not rated or not available

Soil Rating Points
- R070BC007NM
- R070BD003NM
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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Survey Area Data: Version 18, Sep 8, 2022

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

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

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

All Ecological Sites —

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
BB	Berino complex, 0 to 3 percent slopes, eroded	Berino (60%)	R070BD003NM — Loamy Sand	0.3	0.4%
		Pajarito (25%)	R070BD003NM — Loamy Sand		
		Cacique (4%)	R070BD004NM — Sandy		
		Pajarito (4%)	R070BD003NM — Loamy Sand		
		Wink (4%)	R070BD003NM — Loamy Sand		
		Kermit (3%)	R070BD005NM — Deep Sand		
LA	Largo loam, 1 to 5 percent slopes	Largo (98%)	R070BC007NM — Loamy	51.4	76.9%
		Largo (1%)	R070BC017NM — Bottomland		
		Pajarito (1%)	R070BD003NM — Loamy Sand		
PD	Pajarito-Dune land complex, 0 to 3 percent slopes	Pajarito (46%)	R070BD003NM — Loamy Sand	10.5	15.8%
		Dune land (45%)	R070BD003NM — Loamy Sand		
		Rock outcrop (5%)			
		Largo (4%)	R070BC007NM — Loamy		
RO	Rock land	Rock land (97%)		4.6	6.9%
		Pajarito (1%)	R070BD003NM — Loamy Sand		
		Potter (1%)	R070BC025NM — Shallow		
		Simona (1%)	R070BD002NM — Shallow Sandy		
Totals for Area of Interest				**66.8**	**100.0%**

APPENDIX C

DAILY FIELD REPORT

Daily Site Visit Report

Site Photos

Viewing Direction: South

Viewing Direction: Southeast

Viewing Direction: Southeast

Viewing Direction: Southwest

Daily Site Visit Report

Viewing Direction: West

Viewing Direction: Southwest

Viewing Direction: Southwest

Viewing Direction: South

Daily Site Visit Report

Site Photos

Viewing Direction: West

Viewing Direction: West

Viewing Direction: West

Viewing Direction: West

Daily Site Visit Report

Viewing Direction: West

Daily Site Visit Report

Site Photos

Daily Site Visit Report

Viewing Direction: Northwest

Daily Site Visit Report

Site Photos

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: North
	

Daily Site Visit Report

Site Photos

Viewing Direction: Southwest

Viewing Direction: North

Viewing Direction: North

Viewing Direction: West

APPENDIX D

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 4/2/2024 9:13:13 PM

JOB DESCRIPTION

JRU DI 1A CTB

JOB NUMBER

885-990-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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
4/2/2024 9:13:13 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: JRU DI 1A CTB

Laboratory Job ID: 885-990-1

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

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: JRU DI 1A CTB

Job ID: 885-990-1

Job ID: 885-990-1 Eurofins Albuquerque

Job Narrative
885-990-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 3/12/2024 9:05 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 1.4°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: JRU DI 1A CTB

Job ID: 885-990-1

Client Sample ID: WES24-01 0-2'

Date Collected: 03/09/24 13:00
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-1
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		5.0		mg/Kg		03/13/24 15:53	03/18/24 14:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*15 - 244*	*03/13/24 15:53*	*03/18/24 14:12*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/13/24 15:53	03/14/24 15:58	1
Ethylbenzene	ND		0.050		mg/Kg		03/13/24 15:53	03/14/24 15:58	1
Toluene	ND		0.050		mg/Kg		03/13/24 15:53	03/14/24 15:58	1
Xylenes, Total	ND		0.099		mg/Kg		03/13/24 15:53	03/14/24 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*	*03/13/24 15:53*	*03/14/24 15:58*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		03/14/24 14:20	03/15/24 19:40	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		03/14/24 14:20	03/15/24 19:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*69 - 147*	*03/14/24 14:20*	*03/15/24 19:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**290**		60		mg/Kg		03/14/24 16:14	03/14/24 21:59	20

Client Sample ID: BES24-01 2'

Date Collected: 03/09/24 13:10
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-2
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		4.9		mg/Kg		03/13/24 15:53	03/18/24 14:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*15 - 244*	*03/13/24 15:53*	*03/18/24 14:34*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/13/24 15:53	03/14/24 16:20	1
Ethylbenzene	ND		0.049		mg/Kg		03/13/24 15:53	03/14/24 16:20	1
Toluene	ND		0.049		mg/Kg		03/13/24 15:53	03/14/24 16:20	1
Xylenes, Total	ND		0.097		mg/Kg		03/13/24 15:53	03/14/24 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*	*03/13/24 15:53*	*03/14/24 16:20*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		03/14/24 14:20	03/15/24 20:03	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		03/14/24 14:20	03/15/24 20:03	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

Client Sample ID: BES24-01 2'
Date Collected: 03/09/24 13:10
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-2
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	99		69 - 147	03/14/24 14:20	03/15/24 20:03	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	290		60		mg/Kg		03/14/24 16:14	03/14/24 22:36	20

Client Sample ID: BES24-02 0.5'
Date Collected: 03/09/24 13:20
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-3
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		4.9		mg/Kg		03/13/24 15:53	03/18/24 14:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		15 - 244	03/13/24 15:53	03/18/24 14:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/13/24 15:53	03/14/24 16:42	1
Ethylbenzene	ND		0.049		mg/Kg		03/13/24 15:53	03/14/24 16:42	1
Toluene	ND		0.049		mg/Kg		03/13/24 15:53	03/14/24 16:42	1
Xylenes, Total	ND		0.099		mg/Kg		03/13/24 15:53	03/14/24 16:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		39 - 146	03/13/24 15:53	03/14/24 16:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		03/14/24 14:20	03/15/24 20:50	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		03/14/24 14:20	03/15/24 20:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	121		69 - 147	03/14/24 14:20	03/15/24 20:50	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		60		mg/Kg		03/14/24 16:14	03/14/24 22:48	20

Client Sample ID: BES24-03 0.5'
Date Collected: 03/09/24 13:30
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-4
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]	ND		5.0		mg/Kg		03/13/24 15:53	03/18/24 15:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		15 - 244	03/13/24 15:53	03/18/24 15:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/13/24 15:53	03/14/24 17:03	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

Client Sample ID: BES24-03 0.5'

Date Collected: 03/09/24 13:30
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.050		mg/Kg		03/13/24 15:53	03/14/24 17:03	1
Toluene	ND		0.050		mg/Kg		03/13/24 15:53	03/14/24 17:03	1
Xylenes, Total	ND		0.099		mg/Kg		03/13/24 15:53	03/14/24 17:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*39 - 146*	*03/13/24 15:53*	*03/14/24 17:03*	*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		9.6		mg/Kg		03/14/24 14:20	03/15/24 21:14	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		03/14/24 14:20	03/15/24 21:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*71*		*69 - 147*	*03/14/24 14:20*	*03/15/24 21:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**390**		60		mg/Kg		03/14/24 16:14	03/14/24 23:01	20

Client Sample ID: BES24-04 0.5'

Date Collected: 03/09/24 13:40
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-5

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]	ND		4.9		mg/Kg		03/13/24 15:53	03/18/24 15:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*15 - 244*	*03/13/24 15:53*	*03/18/24 15:39*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/13/24 15:53	03/14/24 17:25	1
Ethylbenzene	ND		0.049		mg/Kg		03/13/24 15:53	03/14/24 17:25	1
Toluene	ND		0.049		mg/Kg		03/13/24 15:53	03/14/24 17:25	1
Xylenes, Total	ND		0.097		mg/Kg		03/13/24 15:53	03/14/24 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*39 - 146*	*03/13/24 15:53*	*03/14/24 17:25*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		03/14/24 14:20	03/15/24 21:37	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		03/14/24 14:20	03/15/24 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*117*		*69 - 147*	*03/14/24 14:20*	*03/15/24 21:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**150**		60		mg/Kg		03/15/24 11:40	03/15/24 17:03	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

Client Sample ID: BES24-05 2'

Date Collected: 03/09/24 13:50
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-6

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		4.9		mg/Kg		03/13/24 15:53	03/18/24 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*15 - 244*	*03/13/24 15:53*	*03/18/24 16:01*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/13/24 15:53	03/14/24 18:09	1
Ethylbenzene	ND		0.049		mg/Kg		03/13/24 15:53	03/14/24 18:09	1
Toluene	ND		0.049		mg/Kg		03/13/24 15:53	03/14/24 18:09	1
Xylenes, Total	ND		0.098		mg/Kg		03/13/24 15:53	03/14/24 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*39 - 146*	*03/13/24 15:53*	*03/14/24 18:09*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		03/14/24 14:20	03/15/24 22:01	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		03/14/24 14:20	03/15/24 22:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*113*		*69 - 147*	*03/14/24 14:20*	*03/15/24 22:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**94**		60		mg/Kg		03/15/24 11:40	03/15/24 17:18	20

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

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

Lab Sample ID: MB 885-1670/1-A
Matrix: Solid
Analysis Batch: 1972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1670

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/13/24 15:53	03/18/24 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*15 - 244*	*03/13/24 15:53*	*03/18/24 10:53*	*1*

Lab Sample ID: LCS 885-1670/2-A
Matrix: Solid
Analysis Batch: 1972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1670

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	21.1		mg/Kg		84	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*204*		*15 - 244*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-1670/1-A
Matrix: Solid
Analysis Batch: 1783

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1670

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/13/24 15:53	03/14/24 12:20	1
Ethylbenzene	ND		0.050		mg/Kg		03/13/24 15:53	03/14/24 12:20	1
Toluene	ND		0.050		mg/Kg		03/13/24 15:53	03/14/24 12:20	1
Xylenes, Total	ND		0.10		mg/Kg		03/13/24 15:53	03/14/24 12:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*39 - 146*	*03/13/24 15:53*	*03/14/24 12:20*	*1*

Lab Sample ID: LCS 885-1670/3-A
Matrix: Solid
Analysis Batch: 1783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1670

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.857		mg/Kg		86	70 - 130		
Ethylbenzene			1.00	0.863		mg/Kg		86	70 - 130		
m,p-Xylene			2.00	1.73		mg/Kg		86	70 - 130		
o-Xylene			1.00	0.863		mg/Kg		86	70 - 130		
Toluene			1.00	0.860		mg/Kg		86	70 - 130		
Xylenes, Total			3.00	2.59		mg/Kg		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

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

Lab Sample ID: MB 885-1732/1-A
Matrix: Solid
Analysis Batch: 1807

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1732

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		03/14/24 14:20	03/15/24 15:43	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		03/14/24 14:20	03/15/24 15:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*119*		*69 - 147*	*03/14/24 14:20*	*03/15/24 15:43*	*1*

Lab Sample ID: LCS 885-1732/2-A
Matrix: Solid
Analysis Batch: 1807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1732

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	52.1		mg/Kg		104	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*103*		*69 - 147*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-1690/1-A
Matrix: Solid
Analysis Batch: 1752

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1690

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		03/14/24 10:29	03/14/24 20:32	1

Lab Sample ID: LCS 885-1690/2-A
Matrix: Solid
Analysis Batch: 1752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1690

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.0		mg/Kg		97	90 - 110		

Lab Sample ID: MRL 885-1752/3
Matrix: Solid
Analysis Batch: 1752

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	0.542		mg/L		108	50 - 150		

Lab Sample ID: MB 885-1780/1-A
Matrix: Solid
Analysis Batch: 1813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1780

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		03/15/24 11:40	03/15/24 12:46	1

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-1780/2-A
Matrix: Solid
Analysis Batch: 1813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1780

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.2		mg/Kg		94	90 - 110		

Lab Sample ID: MB 885-1813/4
Matrix: Solid
Analysis Batch: 1813

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/Kg			03/15/24 12:15	1

Lab Sample ID: MRL 885-1813/3
Matrix: Solid
Analysis Batch: 1813

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	0.537		mg/L		107	50 - 150		

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

GC VOA

Prep Batch: 1670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-1	WES24-01 0-2'	Total/NA	Solid	5030C	
885-990-2	BES24-01 2'	Total/NA	Solid	5030C	
885-990-3	BES24-02 0.5'	Total/NA	Solid	5030C	
885-990-4	BES24-03 0.5'	Total/NA	Solid	5030C	
885-990-5	BES24-04 0.5'	Total/NA	Solid	5030C	
885-990-6	BES24-05 2'	Total/NA	Solid	5030C	
MB 885-1670/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-1670/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-1670/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 1783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-1	WES24-01 0-2'	Total/NA	Solid	8021B	1670
885-990-2	BES24-01 2'	Total/NA	Solid	8021B	1670
885-990-3	BES24-02 0.5'	Total/NA	Solid	8021B	1670
885-990-4	BES24-03 0.5'	Total/NA	Solid	8021B	1670
885-990-5	BES24-04 0.5'	Total/NA	Solid	8021B	1670
885-990-6	BES24-05 2'	Total/NA	Solid	8021B	1670
MB 885-1670/1-A	Method Blank	Total/NA	Solid	8021B	1670
LCS 885-1670/3-A	Lab Control Sample	Total/NA	Solid	8021B	1670

Analysis Batch: 1972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-1	WES24-01 0-2'	Total/NA	Solid	8015D	1670
885-990-2	BES24-01 2'	Total/NA	Solid	8015D	1670
885-990-3	BES24-02 0.5'	Total/NA	Solid	8015D	1670
885-990-4	BES24-03 0.5'	Total/NA	Solid	8015D	1670
885-990-5	BES24-04 0.5'	Total/NA	Solid	8015D	1670
885-990-6	BES24-05 2'	Total/NA	Solid	8015D	1670
MB 885-1670/1-A	Method Blank	Total/NA	Solid	8015D	1670
LCS 885-1670/2-A	Lab Control Sample	Total/NA	Solid	8015D	1670

GC Semi VOA

Prep Batch: 1732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-1	WES24-01 0-2'	Total/NA	Solid	SHAKE	
885-990-2	BES24-01 2'	Total/NA	Solid	SHAKE	
885-990-3	BES24-02 0.5'	Total/NA	Solid	SHAKE	
885-990-4	BES24-03 0.5'	Total/NA	Solid	SHAKE	
885-990-5	BES24-04 0.5'	Total/NA	Solid	SHAKE	
885-990-6	BES24-05 2'	Total/NA	Solid	SHAKE	
MB 885-1732/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-1732/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 1807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-1	WES24-01 0-2'	Total/NA	Solid	8015D	1732
885-990-2	BES24-01 2'	Total/NA	Solid	8015D	1732
885-990-3	BES24-02 0.5'	Total/NA	Solid	8015D	1732
885-990-4	BES24-03 0.5'	Total/NA	Solid	8015D	1732

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

GC Semi VOA (Continued)

Analysis Batch: 1807 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-5	BES24-04 0.5'	Total/NA	Solid	8015D	1732
885-990-6	BES24-05 2'	Total/NA	Solid	8015D	1732
MB 885-1732/1-A	Method Blank	Total/NA	Solid	8015D	1732
LCS 885-1732/2-A	Lab Control Sample	Total/NA	Solid	8015D	1732

HPLC/IC

Prep Batch: 1690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-1	WES24-01 0-2'	Total/NA	Solid	300_Prep	
885-990-2	BES24-01 2'	Total/NA	Solid	300_Prep	
885-990-3	BES24-02 0.5'	Total/NA	Solid	300_Prep	
885-990-4	BES24-03 0.5'	Total/NA	Solid	300_Prep	
MB 885-1690/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-1690/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 1752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-1	WES24-01 0-2'	Total/NA	Solid	300.0	1690
885-990-2	BES24-01 2'	Total/NA	Solid	300.0	1690
885-990-3	BES24-02 0.5'	Total/NA	Solid	300.0	1690
885-990-4	BES24-03 0.5'	Total/NA	Solid	300.0	1690
MB 885-1690/1-A	Method Blank	Total/NA	Solid	300.0	1690
LCS 885-1690/2-A	Lab Control Sample	Total/NA	Solid	300.0	1690
MRL 885-1752/3	Lab Control Sample	Total/NA	Solid	300.0	

Prep Batch: 1780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-5	BES24-04 0.5'	Total/NA	Solid	300_Prep	
885-990-6	BES24-05 2'	Total/NA	Solid	300_Prep	
MB 885-1780/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-1780/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 1813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-990-5	BES24-04 0.5'	Total/NA	Solid	300.0	1780
885-990-6	BES24-05 2'	Total/NA	Solid	300.0	1780
MB 885-1780/1-A	Method Blank	Total/NA	Solid	300.0	1780
MB 885-1813/4	Method Blank	Total/NA	Solid	300.0	
LCS 885-1780/2-A	Lab Control Sample	Total/NA	Solid	300.0	1780
MRL 885-1813/3	Lab Control Sample	Total/NA	Solid	300.0	

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

Client Sample ID: WES24-01 0-2'
Date Collected: 03/09/24 13:00
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/18/24 14:12
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8021B		1	1783	IMR	EET ALB	03/14/24 15:58
Total/NA	Prep	SHAKE			1732	SB	EET ALB	03/14/24 14:20
Total/NA	Analysis	8015D		1	1807	JU	EET ALB	03/15/24 19:40
Total/NA	Prep	300_Prep			1690	JT	EET ALB	03/14/24 16:14
Total/NA	Analysis	300.0		20	1752	RC	EET ALB	03/14/24 21:59

Client Sample ID: BES24-01 2'
Date Collected: 03/09/24 13:10
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/18/24 14:34
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8021B		1	1783	IMR	EET ALB	03/14/24 16:20
Total/NA	Prep	SHAKE			1732	SB	EET ALB	03/14/24 14:20
Total/NA	Analysis	8015D		1	1807	JU	EET ALB	03/15/24 20:03
Total/NA	Prep	300_Prep			1690	JT	EET ALB	03/14/24 16:14
Total/NA	Analysis	300.0		20	1752	RC	EET ALB	03/14/24 22:36

Client Sample ID: BES24-02 0.5'
Date Collected: 03/09/24 13:20
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/18/24 14:55
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8021B		1	1783	IMR	EET ALB	03/14/24 16:42
Total/NA	Prep	SHAKE			1732	SB	EET ALB	03/14/24 14:20
Total/NA	Analysis	8015D		1	1807	JU	EET ALB	03/15/24 20:50
Total/NA	Prep	300_Prep			1690	JT	EET ALB	03/14/24 16:14
Total/NA	Analysis	300.0		20	1752	RC	EET ALB	03/14/24 22:48

Client Sample ID: BES24-03 0.5'
Date Collected: 03/09/24 13:30
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/18/24 15:17

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

Client Sample ID: BES24-03 0.5'
Date Collected: 03/09/24 13:30
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8021B		1	1783	IMR	EET ALB	03/14/24 17:03
Total/NA	Prep	SHAKE			1732	SB	EET ALB	03/14/24 14:20
Total/NA	Analysis	8015D		1	1807	JU	EET ALB	03/15/24 21:14
Total/NA	Prep	300_Prep			1690	JT	EET ALB	03/14/24 16:14
Total/NA	Analysis	300.0		20	1752	RC	EET ALB	03/14/24 23:01

Client Sample ID: BES24-04 0.5'
Date Collected: 03/09/24 13:40
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/18/24 15:39
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8021B		1	1783	IMR	EET ALB	03/14/24 17:25
Total/NA	Prep	SHAKE			1732	SB	EET ALB	03/14/24 14:20
Total/NA	Analysis	8015D		1	1807	JU	EET ALB	03/15/24 21:37
Total/NA	Prep	300_Prep			1780	JT	EET ALB	03/15/24 11:40
Total/NA	Analysis	300.0		20	1813	MA	EET ALB	03/15/24 17:03

Client Sample ID: BES24-05 2'
Date Collected: 03/09/24 13:50
Date Received: 03/12/24 09:05

Lab Sample ID: 885-990-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/18/24 16:01
Total/NA	Prep	5030C			1670	IMR	EET ALB	03/13/24 15:53
Total/NA	Analysis	8021B		1	1783	IMR	EET ALB	03/14/24 18:09
Total/NA	Prep	SHAKE			1732	SB	EET ALB	03/14/24 14:20
Total/NA	Analysis	8015D		1	1807	JU	EET ALB	03/15/24 22:01
Total/NA	Prep	300_Prep			1780	JT	EET ALB	03/15/24 11:40
Total/NA	Analysis	300.0		20	1813	MA	EET ALB	03/15/24 17:18

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-990-1

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	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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	02-26-25

eurofins | Environment Testing Xenco Hall

CC: CDixon@vertex.ca for Final Report

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

REMARKS: Direct Bill to XTO Energy, Inc., Cost Center #: 1082151001, Incident #: nAPP2331041267 CC. Chance Dixon (CDixon@vertex.ca) for Final Report.

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon (CDixon@vertex.ca)	Bill to: (if different)	XTO Energy, Inc.
Company Name:	Vertex Resource Services	Company Name:	XTO Energy, Inc.
Address:	3101 Boyd Drive	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad NM, 88220	City, State ZIP:	Carlsbad NM, 88220
Phone:	575.725.5001	Email:	CC: CDixon@vertex.ca for Final Report
Project Name:	JRU DI 1A CTB	Turn Around	Routine ✓ Rush ✓
Project Number:	23E-04616	Due Date:	5DAY
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Deusavan Costa		
PO #:			

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RR ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:		
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Temperature Reading:		
Total Containers:		Corrected Temperature:		

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2S0_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_2$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth (ft)	Grab/ Comp	# of Cont	BTEX (8021)	TPH:8015D(GRO / DRO / MRO)	Chloride
WES24-01 0-2'	Soil	03.09.24	13:00	1	Com		X	X	X
BES24-01 2'	Soil	03.09.24	13:10	1	Com		X	X	X
BES24-02 0.5'	Soil	03.09.24	13:20	1	Com		X	X	X
BES24-03 0.5'	Soil	03.09.24	13:30	1	Com		X	X	X
BES24-04 0.5'	Soil	03.09.24	13:40	1	Com		X	X	X
BES24-05 2'	Soil	03.09.24	13:50	1	Com		X	X	X

Parameters

Sample Comments

885-990 COC

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		3/11/24 1015	2		3/12/24 0905
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

1.6 - 0.2 = 1.4 4oz.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-990-1

Login Number: 990 **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").	N/A	
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 3/28/2024 6:37:31 PM

JOB DESCRIPTION

JRU DI IA CTB

JOB NUMBER

885-1287-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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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3/28/2024 6:37:31 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: JRU DI IA CTB

Laboratory Job ID: 885-1287-1

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

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: JRU DI IA CTB

Job ID: 885-1287-1

Job ID: 885-1287-1 Eurofins Albuquerque

Job Narrative
885-1287-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 3/15/2024 7:40 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 0.2°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: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-06 2'
Date Collected: 03/12/24 09:30
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-1
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		4.6		mg/Kg		03/15/24 12:11	03/19/24 05:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*15 - 244*	*03/15/24 12:11*	*03/19/24 05:04*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		03/15/24 12:11	03/19/24 05:04	1
Ethylbenzene	ND		0.046		mg/Kg		03/15/24 12:11	03/19/24 05:04	1
Toluene	ND		0.046		mg/Kg		03/15/24 12:11	03/19/24 05:04	1
Xylenes, Total	ND		0.093		mg/Kg		03/15/24 12:11	03/19/24 05:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*	*03/15/24 12:11*	*03/19/24 05:04*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8		mg/Kg		03/18/24 11:00	03/18/24 18:47	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		03/18/24 11:00	03/18/24 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*108*		*62 - 134*	*03/18/24 11:00*	*03/18/24 18:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		60		mg/Kg		03/18/24 10:55	03/18/24 16:24	20

Client Sample ID: BES24-08 2'
Date Collected: 03/12/24 09:35
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-2
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		4.9		mg/Kg		03/15/24 12:11	03/19/24 05:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*15 - 244*	*03/15/24 12:11*	*03/19/24 05:26*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/15/24 12:11	03/19/24 05:26	1
Ethylbenzene	ND		0.049		mg/Kg		03/15/24 12:11	03/19/24 05:26	1
Toluene	ND		0.049		mg/Kg		03/15/24 12:11	03/19/24 05:26	1
Xylenes, Total	ND		0.097		mg/Kg		03/15/24 12:11	03/19/24 05:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*03/15/24 12:11*	*03/19/24 05:26*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8		mg/Kg		03/18/24 11:00	03/18/24 18:59	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		03/18/24 11:00	03/18/24 18:59	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-08 2'
Date Collected: 03/12/24 09:35
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-2
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*03/18/24 11:00*	*03/18/24 18:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**120**		60		mg/Kg		03/18/24 10:55	03/18/24 16:36	20

Client Sample ID: BES24-09 0.5'
Date Collected: 03/12/24 09:40
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-3
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		4.7		mg/Kg		03/15/24 12:11	03/19/24 05:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*90*		*15 - 244*	*03/15/24 12:11*	*03/19/24 05:48*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		03/15/24 12:11	03/19/24 05:48	1
Ethylbenzene	ND		0.047		mg/Kg		03/15/24 12:11	03/19/24 05:48	1
Toluene	ND		0.047		mg/Kg		03/15/24 12:11	03/19/24 05:48	1
Xylenes, Total	ND		0.093		mg/Kg		03/15/24 12:11	03/19/24 05:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*87*		*39 - 146*	*03/15/24 12:11*	*03/19/24 05:48*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		03/18/24 11:07	03/18/24 19:11	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		03/18/24 11:07	03/18/24 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*108*		*62 - 134*	*03/18/24 11:07*	*03/18/24 19:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**93**		60		mg/Kg		03/18/24 10:55	03/18/24 16:49	20

Client Sample ID: BES24-10 0.5'
Date Collected: 03/12/24 09:45
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-4
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]	ND		4.9		mg/Kg		03/15/24 12:11	03/19/24 06:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*94*		*15 - 244*	*03/15/24 12:11*	*03/19/24 06:09*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/15/24 12:11	03/19/24 06:09	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-10 0.5'

Date Collected: 03/12/24 09:45
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.049		mg/Kg		03/15/24 12:11	03/19/24 06:09	1
Toluene	ND		0.049		mg/Kg		03/15/24 12:11	03/19/24 06:09	1
Xylenes, Total	ND		0.099		mg/Kg		03/15/24 12:11	03/19/24 06:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*	*03/15/24 12:11*	*03/19/24 06:09*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		03/18/24 11:07	03/18/24 19:23	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		03/18/24 11:07	03/18/24 19:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*03/18/24 11:07*	*03/18/24 19:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**98**		60		mg/Kg		03/18/24 10:55	03/18/24 17:01	20

Client Sample ID: BES24-11 0.5'

Date Collected: 03/12/24 09:50
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-5

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]	ND		4.8		mg/Kg		03/15/24 15:58	03/20/24 07:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*03/15/24 15:58*	*03/20/24 07:02*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/15/24 15:58	03/20/24 07:02	1
Ethylbenzene	ND		0.048		mg/Kg		03/15/24 15:58	03/20/24 07:02	1
Toluene	ND		0.048		mg/Kg		03/15/24 15:58	03/20/24 07:02	1
Xylenes, Total	ND		0.096		mg/Kg		03/15/24 15:58	03/20/24 07:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*	*03/15/24 15:58*	*03/20/24 07:02*	*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		9.3		mg/Kg		03/18/24 11:07	03/18/24 19:35	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		03/18/24 11:07	03/18/24 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*03/18/24 11:07*	*03/18/24 19:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		60		mg/Kg		03/18/24 10:55	03/18/24 17:13	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-12 0.5'
Date Collected: 03/12/24 09:55
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-6
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		4.6	mg/Kg		03/15/24 15:58	03/20/24 07:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 244*	*03/15/24 15:58*	*03/20/24 07:25*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023	mg/Kg		03/15/24 15:58	03/20/24 07:25	1
Ethylbenzene	ND		0.046	mg/Kg		03/15/24 15:58	03/20/24 07:25	1
Toluene	ND		0.046	mg/Kg		03/15/24 15:58	03/20/24 07:25	1
Xylenes, Total	ND		0.091	mg/Kg		03/15/24 15:58	03/20/24 07:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*03/15/24 15:58*	*03/20/24 07:25*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1	mg/Kg		03/19/24 09:41	03/22/24 14:04	1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		03/19/24 09:41	03/22/24 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*03/19/24 09:41*	*03/22/24 14:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**90**		60	mg/Kg		03/18/24 10:55	03/18/24 17:26	20

Client Sample ID: BES24-13 0.5'
Date Collected: 03/12/24 10:00
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-7
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		03/15/24 15:58	03/20/24 07:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*15 - 244*	*03/15/24 15:58*	*03/20/24 07:49*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023	mg/Kg		03/15/24 15:58	03/20/24 07:49	1
Ethylbenzene	ND		0.047	mg/Kg		03/15/24 15:58	03/20/24 07:49	1
Toluene	ND		0.047	mg/Kg		03/15/24 15:58	03/20/24 07:49	1
Xylenes, Total	ND		0.093	mg/Kg		03/15/24 15:58	03/20/24 07:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*03/15/24 15:58*	*03/20/24 07:49*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg		03/19/24 09:41	03/19/24 19:19	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		03/19/24 09:41	03/19/24 19:19	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-13 0.5'
Date Collected: 03/12/24 10:00
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-7
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*03/19/24 09:41*	*03/19/24 19:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**89**		60		mg/Kg		03/18/24 10:55	03/18/24 17:38	20

Client Sample ID: BES24-14 0.5'
Date Collected: 03/12/24 10:05
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-8
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]	ND		4.8		mg/Kg		03/15/24 15:58	03/20/24 08:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*101*		*15 - 244*	*03/15/24 15:58*	*03/20/24 08:12*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/15/24 15:58	03/20/24 08:12	1
Ethylbenzene	ND		0.048		mg/Kg		03/15/24 15:58	03/20/24 08:12	1
Toluene	ND		0.048		mg/Kg		03/15/24 15:58	03/20/24 08:12	1
Xylenes, Total	ND		0.096		mg/Kg		03/15/24 15:58	03/20/24 08:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*93*		*39 - 146*	*03/15/24 15:58*	*03/20/24 08:12*	*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		03/19/24 09:41	03/19/24 19:31	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		03/19/24 09:41	03/19/24 19:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*03/19/24 09:41*	*03/19/24 19:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		61		mg/Kg		03/18/24 10:55	03/18/24 17:50	20

Client Sample ID: BES24-18 0.5'
Date Collected: 03/12/24 10:10
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-9
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]	ND		5.0		mg/Kg		03/15/24 15:58	03/20/24 08:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*104*		*15 - 244*	*03/15/24 15:58*	*03/20/24 08:36*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/15/24 15:58	03/20/24 08:36	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-18 0.5'

Date Collected: 03/12/24 10:10
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.050		mg/Kg		03/15/24 15:58	03/20/24 08:36	1
Toluene	ND		0.050		mg/Kg		03/15/24 15:58	03/20/24 08:36	1
Xylenes, Total	ND		0.10		mg/Kg		03/15/24 15:58	03/20/24 08:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*39 - 146*	*03/15/24 15:58*	*03/20/24 08:36*	*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		9.6		mg/Kg		03/19/24 09:41	03/22/24 14:28	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		03/19/24 09:41	03/22/24 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*109*		*62 - 134*	*03/19/24 09:41*	*03/22/24 14:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		60		mg/Kg		03/18/24 10:55	03/18/24 18:03	20

Client Sample ID: BES24-19 0.5'

Date Collected: 03/12/24 10:15
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-10
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]	ND		4.6		mg/Kg		03/15/24 15:58	03/20/24 08:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*15 - 244*	*03/15/24 15:58*	*03/20/24 08:59*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		03/15/24 15:58	03/20/24 08:59	1
Ethylbenzene	ND		0.046		mg/Kg		03/15/24 15:58	03/20/24 08:59	1
Toluene	ND		0.046		mg/Kg		03/15/24 15:58	03/20/24 08:59	1
Xylenes, Total	ND		0.092		mg/Kg		03/15/24 15:58	03/20/24 08:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*39 - 146*	*03/15/24 15:58*	*03/20/24 08:59*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		03/19/24 09:41	03/19/24 19:55	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		03/19/24 09:41	03/19/24 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*109*		*62 - 134*	*03/19/24 09:41*	*03/19/24 19:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**		60		mg/Kg		03/18/24 10:55	03/18/24 18:15	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-20 0.5'

Date Collected: 03/12/24 10:20
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-11
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]	ND		4.8		mg/Kg		03/15/24 15:58	03/20/24 09:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*15 - 244*	*03/15/24 15:58*	*03/20/24 09:23*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/15/24 15:58	03/20/24 09:23	1
Ethylbenzene	ND		0.048		mg/Kg		03/15/24 15:58	03/20/24 09:23	1
Toluene	ND		0.048		mg/Kg		03/15/24 15:58	03/20/24 09:23	1
Xylenes, Total	ND		0.095		mg/Kg		03/15/24 15:58	03/20/24 09:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*39 - 146*	*03/15/24 15:58*	*03/20/24 09:23*	*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		9.8		mg/Kg		03/19/24 09:41	03/19/24 20:07	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		03/19/24 09:41	03/19/24 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*03/19/24 09:41*	*03/19/24 20:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**120**		60		mg/Kg		03/18/24 10:55	03/18/24 18:52	20

Client Sample ID: WES24-02 2'

Date Collected: 03/12/24 10:25
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-12
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		4.9		mg/Kg		03/18/24 11:35	03/20/24 17:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*15 - 244*	*03/18/24 11:35*	*03/20/24 17:40*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/18/24 11:35	03/20/24 17:40	1
Ethylbenzene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 17:40	1
Toluene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 17:40	1
Xylenes, Total	ND		0.097		mg/Kg		03/18/24 11:35	03/20/24 17:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*	*03/18/24 11:35*	*03/20/24 17:40*	*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		8.9		mg/Kg		03/19/24 09:41	03/19/24 20:19	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		03/19/24 09:41	03/19/24 20:19	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: WES24-02 2'

Date Collected: 03/12/24 10:25
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-12

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*03/19/24 09:41*	*03/19/24 20:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**140**		60		mg/Kg		03/19/24 09:04	03/19/24 14:40	20

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

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

Lab Sample ID: MB 885-1670/1-A
Matrix: Solid
Analysis Batch: 1972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1670

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/13/24 15:53	03/18/24 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*15 - 244*	*03/13/24 15:53*	*03/18/24 10:53*	*1*

Lab Sample ID: MB 885-1786/1-A
Matrix: Solid
Analysis Batch: 1972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1786

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/15/24 12:11	03/18/24 21:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*15 - 244*	*03/15/24 12:11*	*03/18/24 21:05*	*1*

Lab Sample ID: LCS 885-1786/2-A
Matrix: Solid
Analysis Batch: 1972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1786

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.1		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*211*		*15 - 244*

Lab Sample ID: MB 885-1812/1-A
Matrix: Solid
Analysis Batch: 2106

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1812

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/15/24 15:58	03/19/24 09:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*15 - 244*	*03/15/24 15:58*	*03/19/24 09:57*	*1*

Lab Sample ID: LCS 885-1812/2-A
Matrix: Solid
Analysis Batch: 2106

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1812

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	20.4		mg/Kg		82	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*197*		*15 - 244*

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

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

Lab Sample ID: MB 885-1849/1-A
Matrix: Solid
Analysis Batch: 2109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1849

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/18/24 11:35	03/20/24 17:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 244*	*03/18/24 11:35*	*03/20/24 17:19*	*1*

Lab Sample ID: LCS 885-1849/2-A
Matrix: Solid
Analysis Batch: 2109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1849

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	26.0		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*222*		*15 - 244*

Lab Sample ID: 885-1287-12 MS
Matrix: Solid
Analysis Batch: 2109

Client Sample ID: WES24-02 2'
Prep Type: Total/NA
Prep Batch: 1849

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		24.2	25.6		mg/Kg		105	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*217*		*15 - 244*

Lab Sample ID: 885-1287-12 MSD
Matrix: Solid
Analysis Batch: 2109

Client Sample ID: WES24-02 2'
Prep Type: Total/NA
Prep Batch: 1849

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		24.4	23.0		mg/Kg		94	70 - 130	11	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*215*		*15 - 244*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-1786/1-A
Matrix: Solid
Analysis Batch: 1973

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1786

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/15/24 12:11	03/18/24 21:05	1
Ethylbenzene	ND		0.050		mg/Kg		03/15/24 12:11	03/18/24 21:05	1
Toluene	ND		0.050		mg/Kg		03/15/24 12:11	03/18/24 21:05	1

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

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

Lab Sample ID: MB 885-1786/1-A
Matrix: Solid
Analysis Batch: 1973

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1786

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		03/15/24 12:11	03/18/24 21:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*39 - 146*	*03/15/24 12:11*	*03/18/24 21:05*	*1*

Lab Sample ID: LCS 885-1786/3-A
Matrix: Solid
Analysis Batch: 1973

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1786

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.00		mg/Kg		100	70 - 130		
Ethylbenzene			1.00	1.02		mg/Kg		102	70 - 130		
m,p-Xylene			2.00	2.04		mg/Kg		102	70 - 130		
o-Xylene			1.00	1.02		mg/Kg		102	70 - 130		
Toluene			1.00	1.00		mg/Kg		100	70 - 130		
Xylenes, Total			3.00	3.06		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*

Lab Sample ID: MB 885-1812/1-A
Matrix: Solid
Analysis Batch: 2107

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1812

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/15/24 15:58	03/19/24 09:57	1
Ethylbenzene	ND		0.050		mg/Kg		03/15/24 15:58	03/19/24 09:57	1
Toluene	ND		0.050		mg/Kg		03/15/24 15:58	03/19/24 09:57	1
Xylenes, Total	ND		0.10		mg/Kg		03/15/24 15:58	03/19/24 09:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*39 - 146*	*03/15/24 15:58*	*03/19/24 09:57*	*1*

Lab Sample ID: LCS 885-1812/3-A
Matrix: Solid
Analysis Batch: 2107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1812

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	0.903		mg/Kg		90	70 - 130		
m,p-Xylene			2.00	1.83		mg/Kg		92	70 - 130		
o-Xylene			1.00	0.896		mg/Kg		90	70 - 130		
Toluene			1.00	0.894		mg/Kg		89	70 - 130		
Xylenes, Total			3.00	2.73		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*39 - 146*

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

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

Lab Sample ID: MB 885-1849/1-A
Matrix: Solid
Analysis Batch: 2114

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1849

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/18/24 11:35	03/20/24 17:19	1
Ethylbenzene	ND		0.050		mg/Kg		03/18/24 11:35	03/20/24 17:19	1
Toluene	ND		0.050		mg/Kg		03/18/24 11:35	03/20/24 17:19	1
Xylenes, Total	ND		0.10		mg/Kg		03/18/24 11:35	03/20/24 17:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*	*03/18/24 11:35*	*03/20/24 17:19*	*1*

Lab Sample ID: LCS 885-1849/3-A
Matrix: Solid
Analysis Batch: 2114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1849

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.03		mg/Kg		103	70 - 130		
Ethylbenzene			1.00	1.06		mg/Kg		106	70 - 130		
m,p-Xylene			2.00	2.11		mg/Kg		105	70 - 130		
o-Xylene			1.00	1.06		mg/Kg		106	70 - 130		
Toluene			1.00	1.04		mg/Kg		104	70 - 130		
Xylenes, Total			3.00	3.16		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*

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

Lab Sample ID: MB 885-1847/1-A
Matrix: Solid
Analysis Batch: 1898

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1847

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		03/18/24 10:59	03/18/24 14:13	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		03/18/24 10:59	03/18/24 14:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*122*		*62 - 134*	*03/18/24 10:59*	*03/18/24 14:13*	*1*

Lab Sample ID: LCS 885-1847/2-A
Matrix: Solid
Analysis Batch: 1898

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1847

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	48.9		mg/Kg		98	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

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

Lab Sample ID: 885-1287-5 MS
Matrix: Solid
Analysis Batch: 1898

Client Sample ID: BES24-11 0.5'
Prep Type: Total/NA
Prep Batch: 1847

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	ND		47.6	43.5		mg/Kg		91	44 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*114*		*62 - 134*

Lab Sample ID: 885-1287-5 MSD
Matrix: Solid
Analysis Batch: 1898

Client Sample ID: BES24-11 0.5'
Prep Type: Total/NA
Prep Batch: 1847

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		46.6	43.3		mg/Kg		93	44 - 136	0	32

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

Lab Sample ID: MB 885-1913/1-A
Matrix: Solid
Analysis Batch: 1993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1913

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		03/19/24 09:41	03/19/24 15:50	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		03/19/24 09:41	03/19/24 15:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*03/19/24 09:41*	*03/19/24 15:50*	*1*

Lab Sample ID: LCS 885-1913/2-A
Matrix: Solid
Analysis Batch: 1993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1913

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]			50.0	43.6		mg/Kg		87	60 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*

Lab Sample ID: 885-1287-12 MS
Matrix: Solid
Analysis Batch: 1993

Client Sample ID: WES24-02 2'
Prep Type: Total/NA
Prep Batch: 1913

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	ND		45.1	41.4		mg/Kg		92	44 - 136

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

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

Lab Sample ID: 885-1287-12 MS
Matrix: Solid
Analysis Batch: 1993

Client Sample ID: WES24-02 2'
Prep Type: Total/NA
Prep Batch: 1913

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

Lab Sample ID: 885-1287-12 MSD
Matrix: Solid
Analysis Batch: 1993

Client Sample ID: WES24-02 2'
Prep Type: Total/NA
Prep Batch: 1913

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		48.0	43.0		mg/Kg		90	44 - 136	4	32

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Di-n-octyl phthalate (Surr)	*113*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-1845/1-A
Matrix: Solid
Analysis Batch: 1909

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1845

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		03/18/24 10:55	03/18/24 13:56	1

Lab Sample ID: LCS 885-1845/2-A
Matrix: Solid
Analysis Batch: 1909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1845

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.2		mg/Kg		94	90 - 110		

Lab Sample ID: MB 885-1910/1-A
Matrix: Solid
Analysis Batch: 2271

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1910

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		03/19/24 09:04	03/19/24 11:35	1

Lab Sample ID: LCS 885-1910/2-A
Matrix: Solid
Analysis Batch: 2271

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1910

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
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

GC VOA

Prep Batch: 1670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-1670/1-A	Method Blank	Total/NA	Solid	5030C	

Prep Batch: 1786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-1	BES24-06 2'	Total/NA	Solid	5030C	
885-1287-2	BES24-08 2'	Total/NA	Solid	5030C	
885-1287-3	BES24-09 0.5'	Total/NA	Solid	5030C	
885-1287-4	BES24-10 0.5'	Total/NA	Solid	5030C	
MB 885-1786/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-1786/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-1786/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Prep Batch: 1812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-5	BES24-11 0.5'	Total/NA	Solid	5030C	
885-1287-6	BES24-12 0.5'	Total/NA	Solid	5030C	
885-1287-7	BES24-13 0.5'	Total/NA	Solid	5030C	
885-1287-8	BES24-14 0.5'	Total/NA	Solid	5030C	
885-1287-9	BES24-18 0.5'	Total/NA	Solid	5030C	
885-1287-10	BES24-19 0.5'	Total/NA	Solid	5030C	
885-1287-11	BES24-20 0.5'	Total/NA	Solid	5030C	
MB 885-1812/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-1812/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-1812/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Prep Batch: 1849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-12	WES24-02 2'	Total/NA	Solid	5030C	
MB 885-1849/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-1849/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-1849/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-1287-12 MS	WES24-02 2'	Total/NA	Solid	5030C	
885-1287-12 MSD	WES24-02 2'	Total/NA	Solid	5030C	

Analysis Batch: 1972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-1	BES24-06 2'	Total/NA	Solid	8015D	1786
885-1287-2	BES24-08 2'	Total/NA	Solid	8015D	1786
885-1287-3	BES24-09 0.5'	Total/NA	Solid	8015D	1786
885-1287-4	BES24-10 0.5'	Total/NA	Solid	8015D	1786
MB 885-1670/1-A	Method Blank	Total/NA	Solid	8015D	1670
MB 885-1786/1-A	Method Blank	Total/NA	Solid	8015D	1786
LCS 885-1786/2-A	Lab Control Sample	Total/NA	Solid	8015D	1786

Analysis Batch: 1973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-1	BES24-06 2'	Total/NA	Solid	8021B	1786
885-1287-2	BES24-08 2'	Total/NA	Solid	8021B	1786
885-1287-3	BES24-09 0.5'	Total/NA	Solid	8021B	1786
885-1287-4	BES24-10 0.5'	Total/NA	Solid	8021B	1786
MB 885-1786/1-A	Method Blank	Total/NA	Solid	8021B	1786

QC Association Summary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

GC VOA (Continued)

Analysis Batch: 1973 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-1786/3-A	Lab Control Sample	Total/NA	Solid	8021B	1786

Analysis Batch: 2106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-5	BES24-11 0.5'	Total/NA	Solid	8015D	1812
885-1287-6	BES24-12 0.5'	Total/NA	Solid	8015D	1812
885-1287-7	BES24-13 0.5'	Total/NA	Solid	8015D	1812
885-1287-8	BES24-14 0.5'	Total/NA	Solid	8015D	1812
885-1287-9	BES24-18 0.5'	Total/NA	Solid	8015D	1812
885-1287-10	BES24-19 0.5'	Total/NA	Solid	8015D	1812
885-1287-11	BES24-20 0.5'	Total/NA	Solid	8015D	1812
MB 885-1812/1-A	Method Blank	Total/NA	Solid	8015D	1812
LCS 885-1812/2-A	Lab Control Sample	Total/NA	Solid	8015D	1812

Analysis Batch: 2107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-5	BES24-11 0.5'	Total/NA	Solid	8021B	1812
885-1287-6	BES24-12 0.5'	Total/NA	Solid	8021B	1812
885-1287-7	BES24-13 0.5'	Total/NA	Solid	8021B	1812
885-1287-8	BES24-14 0.5'	Total/NA	Solid	8021B	1812
885-1287-9	BES24-18 0.5'	Total/NA	Solid	8021B	1812
885-1287-10	BES24-19 0.5'	Total/NA	Solid	8021B	1812
885-1287-11	BES24-20 0.5'	Total/NA	Solid	8021B	1812
MB 885-1812/1-A	Method Blank	Total/NA	Solid	8021B	1812
LCS 885-1812/3-A	Lab Control Sample	Total/NA	Solid	8021B	1812

Analysis Batch: 2109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-12	WES24-02 2'	Total/NA	Solid	8015D	1849
MB 885-1849/1-A	Method Blank	Total/NA	Solid	8015D	1849
LCS 885-1849/2-A	Lab Control Sample	Total/NA	Solid	8015D	1849
885-1287-12 MS	WES24-02 2'	Total/NA	Solid	8015D	1849
885-1287-12 MSD	WES24-02 2'	Total/NA	Solid	8015D	1849

Analysis Batch: 2114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-12	WES24-02 2'	Total/NA	Solid	8021B	1849
MB 885-1849/1-A	Method Blank	Total/NA	Solid	8021B	1849
LCS 885-1849/3-A	Lab Control Sample	Total/NA	Solid	8021B	1849

GC Semi VOA

Prep Batch: 1847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-1	BES24-06 2'	Total/NA	Solid	SHAKE	
885-1287-2	BES24-08 2'	Total/NA	Solid	SHAKE	
885-1287-3	BES24-09 0.5'	Total/NA	Solid	SHAKE	
885-1287-4	BES24-10 0.5'	Total/NA	Solid	SHAKE	
885-1287-5	BES24-11 0.5'	Total/NA	Solid	SHAKE	
MB 885-1847/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-1847/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

GC Semi VOA (Continued)

Prep Batch: 1847 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-5 MS	BES24-11 0.5'	Total/NA	Solid	SHAKE	
885-1287-5 MSD	BES24-11 0.5'	Total/NA	Solid	SHAKE	

Analysis Batch: 1898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-1	BES24-06 2'	Total/NA	Solid	8015D	1847
885-1287-2	BES24-08 2'	Total/NA	Solid	8015D	1847
885-1287-3	BES24-09 0.5'	Total/NA	Solid	8015D	1847
885-1287-4	BES24-10 0.5'	Total/NA	Solid	8015D	1847
885-1287-5	BES24-11 0.5'	Total/NA	Solid	8015D	1847
MB 885-1847/1-A	Method Blank	Total/NA	Solid	8015D	1847
LCS 885-1847/2-A	Lab Control Sample	Total/NA	Solid	8015D	1847
885-1287-5 MS	BES24-11 0.5'	Total/NA	Solid	8015D	1847
885-1287-5 MSD	BES24-11 0.5'	Total/NA	Solid	8015D	1847

Prep Batch: 1913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-6	BES24-12 0.5'	Total/NA	Solid	SHAKE	
885-1287-7	BES24-13 0.5'	Total/NA	Solid	SHAKE	
885-1287-8	BES24-14 0.5'	Total/NA	Solid	SHAKE	
885-1287-9	BES24-18 0.5'	Total/NA	Solid	SHAKE	
885-1287-10	BES24-19 0.5'	Total/NA	Solid	SHAKE	
885-1287-11	BES24-20 0.5'	Total/NA	Solid	SHAKE	
885-1287-12	WES24-02 2'	Total/NA	Solid	SHAKE	
MB 885-1913/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-1913/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-1287-12 MS	WES24-02 2'	Total/NA	Solid	SHAKE	
885-1287-12 MSD	WES24-02 2'	Total/NA	Solid	SHAKE	

Analysis Batch: 1993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-7	BES24-13 0.5'	Total/NA	Solid	8015D	1913
885-1287-8	BES24-14 0.5'	Total/NA	Solid	8015D	1913
885-1287-10	BES24-19 0.5'	Total/NA	Solid	8015D	1913
885-1287-11	BES24-20 0.5'	Total/NA	Solid	8015D	1913
885-1287-12	WES24-02 2'	Total/NA	Solid	8015D	1913
MB 885-1913/1-A	Method Blank	Total/NA	Solid	8015D	1913
LCS 885-1913/2-A	Lab Control Sample	Total/NA	Solid	8015D	1913
885-1287-12 MS	WES24-02 2'	Total/NA	Solid	8015D	1913
885-1287-12 MSD	WES24-02 2'	Total/NA	Solid	8015D	1913

Analysis Batch: 2245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-6	BES24-12 0.5'	Total/NA	Solid	8015D	1913
885-1287-9	BES24-18 0.5'	Total/NA	Solid	8015D	1913

HPLC/IC

Prep Batch: 1845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-1	BES24-06 2'	Total/NA	Solid	300_Prep	

QC Association Summary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

HPLC/IC (Continued)

Prep Batch: 1845 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-2	BES24-08 2'	Total/NA	Solid	300_Prep	
885-1287-3	BES24-09 0.5'	Total/NA	Solid	300_Prep	
885-1287-4	BES24-10 0.5'	Total/NA	Solid	300_Prep	
885-1287-5	BES24-11 0.5'	Total/NA	Solid	300_Prep	
885-1287-6	BES24-12 0.5'	Total/NA	Solid	300_Prep	
885-1287-7	BES24-13 0.5'	Total/NA	Solid	300_Prep	
885-1287-8	BES24-14 0.5'	Total/NA	Solid	300_Prep	
885-1287-9	BES24-18 0.5'	Total/NA	Solid	300_Prep	
885-1287-10	BES24-19 0.5'	Total/NA	Solid	300_Prep	
885-1287-11	BES24-20 0.5'	Total/NA	Solid	300_Prep	
MB 885-1845/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-1845/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 1909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-1	BES24-06 2'	Total/NA	Solid	300.0	1845
885-1287-2	BES24-08 2'	Total/NA	Solid	300.0	1845
885-1287-3	BES24-09 0.5'	Total/NA	Solid	300.0	1845
885-1287-4	BES24-10 0.5'	Total/NA	Solid	300.0	1845
885-1287-5	BES24-11 0.5'	Total/NA	Solid	300.0	1845
885-1287-6	BES24-12 0.5'	Total/NA	Solid	300.0	1845
885-1287-7	BES24-13 0.5'	Total/NA	Solid	300.0	1845
885-1287-8	BES24-14 0.5'	Total/NA	Solid	300.0	1845
885-1287-9	BES24-18 0.5'	Total/NA	Solid	300.0	1845
885-1287-10	BES24-19 0.5'	Total/NA	Solid	300.0	1845
885-1287-11	BES24-20 0.5'	Total/NA	Solid	300.0	1845
MB 885-1845/1-A	Method Blank	Total/NA	Solid	300.0	1845
LCS 885-1845/2-A	Lab Control Sample	Total/NA	Solid	300.0	1845

Prep Batch: 1910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-12	WES24-02 2'	Total/NA	Solid	300_Prep	
MB 885-1910/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-1910/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 2271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1287-12	WES24-02 2'	Total/NA	Solid	300.0	1910
MB 885-1910/1-A	Method Blank	Total/NA	Solid	300.0	1910
LCS 885-1910/2-A	Lab Control Sample	Total/NA	Solid	300.0	1910

Lab Chronicle

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-06 2'
Date Collected: 03/12/24 09:30
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1786	JP	EET ALB	03/15/24 12:11
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/19/24 05:04
Total/NA	Prep	5030C			1786	JP	EET ALB	03/15/24 12:11
Total/NA	Analysis	8021B		1	1973	RA	EET ALB	03/19/24 05:04
Total/NA	Prep	SHAKE			1847	JU	EET ALB	03/18/24 11:00
Total/NA	Analysis	8015D		1	1898	JU	EET ALB	03/18/24 18:47
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 16:24

Client Sample ID: BES24-08 2'
Date Collected: 03/12/24 09:35
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1786	JP	EET ALB	03/15/24 12:11
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/19/24 05:26
Total/NA	Prep	5030C			1786	JP	EET ALB	03/15/24 12:11
Total/NA	Analysis	8021B		1	1973	RA	EET ALB	03/19/24 05:26
Total/NA	Prep	SHAKE			1847	JU	EET ALB	03/18/24 11:00
Total/NA	Analysis	8015D		1	1898	JU	EET ALB	03/18/24 18:59
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 16:36

Client Sample ID: BES24-09 0.5'
Date Collected: 03/12/24 09:40
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1786	JP	EET ALB	03/15/24 12:11
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/19/24 05:48
Total/NA	Prep	5030C			1786	JP	EET ALB	03/15/24 12:11
Total/NA	Analysis	8021B		1	1973	RA	EET ALB	03/19/24 05:48
Total/NA	Prep	SHAKE			1847	JU	EET ALB	03/18/24 11:07
Total/NA	Analysis	8015D		1	1898	JU	EET ALB	03/18/24 19:11
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 16:49

Client Sample ID: BES24-10 0.5'
Date Collected: 03/12/24 09:45
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1786	JP	EET ALB	03/15/24 12:11
Total/NA	Analysis	8015D		1	1972	RA	EET ALB	03/19/24 06:09

Lab Chronicle

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-10 0.5'
Date Collected: 03/12/24 09:45
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1786	JP	EET ALB	03/15/24 12:11
Total/NA	Analysis	8021B		1	1973	RA	EET ALB	03/19/24 06:09
Total/NA	Prep	SHAKE			1847	JU	EET ALB	03/18/24 11:07
Total/NA	Analysis	8015D		1	1898	JU	EET ALB	03/18/24 19:23
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 17:01

Client Sample ID: BES24-11 0.5'
Date Collected: 03/12/24 09:50
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8015D		1	2106	JP	EET ALB	03/20/24 07:02
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8021B		1	2107	JP	EET ALB	03/20/24 07:02
Total/NA	Prep	SHAKE			1847	JU	EET ALB	03/18/24 11:07
Total/NA	Analysis	8015D		1	1898	JU	EET ALB	03/18/24 19:35
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 17:13

Client Sample ID: BES24-12 0.5'
Date Collected: 03/12/24 09:55
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8015D		1	2106	JP	EET ALB	03/20/24 07:25
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8021B		1	2107	JP	EET ALB	03/20/24 07:25
Total/NA	Prep	SHAKE			1913	JU	EET ALB	03/19/24 09:41
Total/NA	Analysis	8015D		1	2245	JU	EET ALB	03/22/24 14:04
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 17:26

Client Sample ID: BES24-13 0.5'
Date Collected: 03/12/24 10:00
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8015D		1	2106	JP	EET ALB	03/20/24 07:49
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8021B		1	2107	JP	EET ALB	03/20/24 07:49

Lab Chronicle

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-13 0.5'
Date Collected: 03/12/24 10:00
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			1913	JU	EET ALB	03/19/24 09:41
Total/NA	Analysis	8015D		1	1993	JU	EET ALB	03/19/24 19:19
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 17:38

Client Sample ID: BES24-14 0.5'
Date Collected: 03/12/24 10:05
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8015D		1	2106	JP	EET ALB	03/20/24 08:12
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8021B		1	2107	JP	EET ALB	03/20/24 08:12
Total/NA	Prep	SHAKE			1913	JU	EET ALB	03/19/24 09:41
Total/NA	Analysis	8015D		1	1993	JU	EET ALB	03/19/24 19:31
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 17:50

Client Sample ID: BES24-18 0.5'
Date Collected: 03/12/24 10:10
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8015D		1	2106	JP	EET ALB	03/20/24 08:36
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8021B		1	2107	JP	EET ALB	03/20/24 08:36
Total/NA	Prep	SHAKE			1913	JU	EET ALB	03/19/24 09:41
Total/NA	Analysis	8015D		1	2245	JU	EET ALB	03/22/24 14:28
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 18:03

Client Sample ID: BES24-19 0.5'
Date Collected: 03/12/24 10:15
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8015D		1	2106	JP	EET ALB	03/20/24 08:59
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8021B		1	2107	JP	EET ALB	03/20/24 08:59
Total/NA	Prep	SHAKE			1913	JU	EET ALB	03/19/24 09:41
Total/NA	Analysis	8015D		1	1993	JU	EET ALB	03/19/24 19:55

Lab Chronicle

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Client Sample ID: BES24-19 0.5'
Date Collected: 03/12/24 10:15
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 18:15

Client Sample ID: BES24-20 0.5'
Date Collected: 03/12/24 10:20
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8015D		1	2106	JP	EET ALB	03/20/24 09:23
Total/NA	Prep	5030C			1812	JP	EET ALB	03/15/24 15:58
Total/NA	Analysis	8021B		1	2107	JP	EET ALB	03/20/24 09:23
Total/NA	Prep	SHAKE			1913	JU	EET ALB	03/19/24 09:41
Total/NA	Analysis	8015D		1	1993	JU	EET ALB	03/19/24 20:07
Total/NA	Prep	300_Prep			1845	JT	EET ALB	03/18/24 10:55
Total/NA	Analysis	300.0		20	1909	KB	EET ALB	03/18/24 18:52

Client Sample ID: WES24-02 2'
Date Collected: 03/12/24 10:25
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1287-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8015D		1	2109	RA	EET ALB	03/20/24 17:40
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8021B		1	2114	RA	EET ALB	03/20/24 17:40
Total/NA	Prep	SHAKE			1913	JU	EET ALB	03/19/24 09:41
Total/NA	Analysis	8015D		1	1993	JU	EET ALB	03/19/24 20:19
Total/NA	Prep	300_Prep			1910	JT	EET ALB	03/19/24 09:04
Total/NA	Analysis	300.0		20	2271	RC	EET ALB	03/19/24 14:40

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

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	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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	02-26-25

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	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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

Method Summary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-1287-1

Method	Method Description	Protocol	Laboratory
8015D	Gasoline Range Organics (GRO) (GC)	SW846	EET ALB
8021B	Volatile Organic Compounds (GC)	SW846	EET ALB
8015D	Diesel Range Organics (DRO) (GC)	SW846	EET ALB
300.0	Anions, Ion Chromatography	EPA	EET ALB
300_Prep	Anions, Ion Chromatography, 10% Wt/Vol	EPA	EET ALB
5030C	Purge and Trap	SW846	EET ALB
SHAKE	Preparation, Shake Jar	TestAmerica SOP	EET ALB

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

Laboratory References:

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

885-1287 COC

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Chain of Custody

Houston TX (281) 240-4200 Dallas TX (214) 902-0300
Midland TX (432) 704-5440 San Antonio TX (210) 509-3334
EL Paso TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs NM (575) 392-7550 Carlsbad NM (575) 988-3199

REMARKS: Direct Bill to XTO Energy, Inc., Cost Center #: 1082151001, Incident #: nAPP2331041267 CC. Chance Dixon (CDixon@vertex.ca) for Final Report.

www.xenco.com Page 1 of 2

Project Manager	Chance Dixon (CDixon@vertex.ca)	Bill to. (if different)	XTO Energy, Inc
Company Name:	Vertex Resource Services	Company Name	XTO Energy, Inc
Address.	3101 Boyd Drive	Address:	3104 E Greene St
City, State ZIP	Carlsbad NM, 88220	City State ZIP	Carlsbad NM, 88220
Phone:	575 725 5001	Email	CC CDixon@vertex.ca for Final Report
Project Name	JRU DI 1A CTB	Turn Around	
Project Number	23E-04616	Routine / Rush	
Project Location		Due Date.	5 DAY
Sampler's Name	Deusavan Costa	TAT starts the day received by the lab, if received by 4 30pm	
PO #:			

Work Order Comments

Program. UST/PST PRP Brownfields RR Superfund
State of Project:
Reporting Level II Level III PST/UST TRRP Level IV
Deliverables EDD ADaPT Other:

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	Yes No	
Samples Received Intact:	(Yes) No	Thermometer ID:	mark	
Cooler Custody Seals.	Yes No N/A	Correction Factor:	+0.1	
Sample Custody Seals.	Yes (No) N/A	Temperature Reading:	0.1	
Total Containers.	1	Corrected Temperature	0.2 °C	

Preservative Codes

None NO DI Water H_2O
Cool Cool MeOH Me
HCL HC HNO_3. HN
H_2SO_4. H_2 NaOH Na
H_3PO_4. HP
$NaHSO_4$. NABIS
$Na_2S_2O_3$. $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth (ft)	Grab/ Comp	# of Cont	BTEX (8021)	TPH 8015D(GRO / DRO / MRO)	Chloride	Sample Comments
BES24-06 2'	Soil	03.12.24	09:30	2	Com		X	X	X	1
BES24-08 2'	Soil	03.12.24	09:35	2	Com		X	X	X	2
BES24- 09 0 5'	Soil	03.12.24	09:40	0.5	Com		X	X	X	3
BES24- 10 0 5'	Soil	03.12.24	09:45	0.5	Com		X	X	X	4
BES24- 11 0 5'	Soil	03.12.24	09:50	0.5	Com		X	X	X	5
BES24- 12 0 5'	Soil	03.12.24	09:55	0.5	Com		X	X	X	6
BES24- 13 0 5'	Soil	03.12.24	10:00	0.5	Com		X	X	X	7
BES24- 14 0 5'	Soil	03.12.24	10:05	0.5	Com		X	X	X	8
BES24- 18 0 5'	Soil	03.12.24	10:10	0.5	Com		X	X	X	9
BES24- 19 0 5'	Soil	03.12.24	10:15	0.5	Com		X	X	X	10

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245 1 / 7470 / 7471

Notice. Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		3/14/24 930	2		3/15/24 7:40
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

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Chain of Custody

Houston TX (281) 240-4200, Dallas TX (214) 902-0300
Midland, TX (432) 704-5440 San Antonio TX (210) 509-3334
EL Paso TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs NM (575) 392-7550 Carlsbad, NM (575) 988-3199

REMARKS: Direct Bill to XTO Energy, Inc., Cost Center #: 1082151001, Incident #: nAPP2331041267 CC. Chance Dixon (CDixon@vertex.ca) for Final Report.

www.xenco.com Page 2 of 2

Project Manager	Chance Dixon (CDixon@vertex ca)	Bill to (if different)	XTO Energy, Inc
Company Name	Vertex Resource Services	Company Name	XTO Energy, Inc
Address	3101 Boyd Drive	Address	3104 E Greene St
City State ZIP	Carlsbad NM, 88220	City State ZIP	Carlsbad NM, 88220
Phone	575 725 5001	Email	CC CDixon@vertex.ca for Final Report
Project Name	JRU DI 1A CTB	Turn Around	Routine / Rush
Project Number	23E-04616	Pres Code	
Project Location		Due Date	5/1/24
Sampler's Name	Deusavan Costa	TAT starts the day received by the lab if received by 4 30pm	
PO #:			

Work Order Comments

Program UST/PST PRP Brownfields RR Superfund
State of Project
Reporting Level II Level III PST/UST TRR Level IV
Deliverables EDD ADaPT Other

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID	Mort4
Cooler Custody Seals	(Yes) No N/A	Correction Factor	+0.1
Sample Custody Seals	Yes (No) N/A	Temperature Reading	0.1
Total Containers	1	Corrected Temperature	0.2

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth (ft)	Grab/ Comp	# of Cont	BTEX (8021)	TPH 8015D(GRO / DRO / MRO)	Chloride																
BES24- 20 0 5'	Soil	03.12.24	10:20	0.5	Com		X	X	X																11
WES24- 02 2'	Soil	03.12.24	10:25	2	Com		X	X	X																12

Parameters

Preservative Codes

None NO DI Water H_2O
Cool Cool MeOH Me
HCL HC HNO_3 HN
H_2SO_4 H_2 NaOH Na
H_3PO_4 HP
$NaHSO_4$ NABIS
$Na_2S_2O_3$ $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245 1 / 7470 / 7471

Notice. Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1		3/14/24 930	2		3/15/24 740
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-1287-1

Login Number: 1287 **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").	N/A	
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 4/2/2024 9:26:17 PM

JOB DESCRIPTION

JRU DI 1A CTB

JOB NUMBER

885-1289-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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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4/2/2024 9:26:17 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: JRU DI 1A CTB

Laboratory Job ID: 885-1289-1

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

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: JRU DI 1A CTB

Job ID: 885-1289-1

Job ID: 885-1289-1 Eurofins Albuquerque

Job Narrative
885-1289-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 3/15/2024 7:40 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 0.2°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: JRU DI 1A CTB

Job ID: 885-1289-1

Client Sample ID: WES24-03 2'

Date Collected: 03/13/24 10:00
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-1

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		4.6		mg/Kg		03/18/24 11:35	03/20/24 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*15 - 244*	*03/18/24 11:35*	*03/20/24 18:46*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		03/18/24 11:35	03/20/24 18:46	1
Ethylbenzene	ND		0.046		mg/Kg		03/18/24 11:35	03/20/24 18:46	1
Toluene	ND		0.046		mg/Kg		03/18/24 11:35	03/20/24 18:46	1
Xylenes, Total	ND		0.093		mg/Kg		03/18/24 11:35	03/20/24 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*	*03/18/24 11:35*	*03/20/24 18:46*	*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		03/19/24 12:03	03/19/24 23:25	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		03/19/24 12:03	03/19/24 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*03/19/24 12:03*	*03/19/24 23:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6100**		300		mg/Kg		03/20/24 12:17	03/28/24 15:34	100

Client Sample ID: WES24-04 2'

Date Collected: 03/13/24 10:05
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-2

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		4.9		mg/Kg		03/18/24 11:35	03/20/24 19:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*15 - 244*	*03/18/24 11:35*	*03/20/24 19:51*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/18/24 11:35	03/20/24 19:51	1
Ethylbenzene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 19:51	1
Toluene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 19:51	1
Xylenes, Total	ND		0.097		mg/Kg		03/18/24 11:35	03/20/24 19:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*39 - 146*	*03/18/24 11:35*	*03/20/24 19:51*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		03/19/24 12:03	03/19/24 23:49	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		03/19/24 12:03	03/19/24 23:49	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

Client Sample ID: WES24-04 2'
Date Collected: 03/13/24 10:05
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-2
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*03/19/24 12:03*	*03/19/24 23:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**200**		60		mg/Kg		03/20/24 12:17	03/20/24 14:43	20

Client Sample ID: BES24-07 0.5'
Date Collected: 03/13/24 10:10
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-3
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		4.9		mg/Kg		03/18/24 11:35	03/20/24 20:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 244*	*03/18/24 11:35*	*03/20/24 20:13*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/18/24 11:35	03/20/24 20:13	1
Ethylbenzene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 20:13	1
Toluene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 20:13	1
Xylenes, Total	ND		0.099		mg/Kg		03/18/24 11:35	03/20/24 20:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*	*03/18/24 11:35*	*03/20/24 20:13*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		03/19/24 12:03	03/20/24 00:12	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		03/19/24 12:03	03/20/24 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*03/19/24 12:03*	*03/20/24 00:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3400**		150		mg/Kg		03/20/24 12:17	03/28/24 15:46	50

Client Sample ID: BES24-15 0.5'
Date Collected: 03/13/24 10:15
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-4
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]	ND		4.7		mg/Kg		03/18/24 11:35	03/20/24 20:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*15 - 244*	*03/18/24 11:35*	*03/20/24 20:35*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/18/24 11:35	03/20/24 20:35	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

Client Sample ID: BES24-15 0.5'

Date Collected: 03/13/24 10:15
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.047		mg/Kg		03/18/24 11:35	03/20/24 20:35	1
Toluene	ND		0.047		mg/Kg		03/18/24 11:35	03/20/24 20:35	1
Xylenes, Total	ND		0.095		mg/Kg		03/18/24 11:35	03/20/24 20:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*39 - 146*	*03/18/24 11:35*	*03/20/24 20:35*	*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		03/19/24 12:03	03/20/24 00:36	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		03/19/24 12:03	03/20/24 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*03/19/24 12:03*	*03/20/24 00:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**410**		60		mg/Kg		03/20/24 12:17	03/20/24 15:08	20

Client Sample ID: BES24-16 0.5'

Date Collected: 03/13/24 10:20
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-5
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]	ND		4.9		mg/Kg		03/18/24 11:35	03/20/24 20:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 244*	*03/18/24 11:35*	*03/20/24 20:56*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/18/24 11:35	03/20/24 20:56	1
Ethylbenzene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 20:56	1
Toluene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 20:56	1
Xylenes, Total	ND		0.098		mg/Kg		03/18/24 11:35	03/20/24 20:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*03/18/24 11:35*	*03/20/24 20:56*	*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		03/19/24 12:03	03/20/24 00:59	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		03/19/24 12:03	03/20/24 00:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*03/19/24 12:03*	*03/20/24 00:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1400**		59		mg/Kg		03/20/24 12:17	03/20/24 15:20	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

Client Sample ID: BES24-17 0.5'

Date Collected: 03/13/24 10:25
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-6

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		03/18/24 11:35	03/20/24 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 244*	*03/18/24 11:35*	*03/20/24 21:18*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		03/18/24 11:35	03/20/24 21:18	1
Ethylbenzene	ND		0.047		mg/Kg		03/18/24 11:35	03/20/24 21:18	1
Toluene	ND		0.047		mg/Kg		03/18/24 11:35	03/20/24 21:18	1
Xylenes, Total	ND		0.094		mg/Kg		03/18/24 11:35	03/20/24 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*03/18/24 11:35*	*03/20/24 21:18*	*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		9.1		mg/Kg		03/19/24 12:03	03/20/24 01:23	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		03/19/24 12:03	03/20/24 01:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*03/19/24 12:03*	*03/20/24 01:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3100**		150		mg/Kg		03/20/24 12:17	03/28/24 15:59	50

Client Sample ID: WES24-05 0.5'

Date Collected: 03/13/24 10:40
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-7

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		4.9		mg/Kg		03/18/24 11:35	03/20/24 21:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*15 - 244*	*03/18/24 11:35*	*03/20/24 21:40*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/18/24 11:35	03/20/24 21:40	1
Ethylbenzene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 21:40	1
Toluene	ND		0.049		mg/Kg		03/18/24 11:35	03/20/24 21:40	1
Xylenes, Total	ND		0.099		mg/Kg		03/18/24 11:35	03/20/24 21:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*	*03/18/24 11:35*	*03/20/24 21:40*	*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		9.2		mg/Kg		03/19/24 12:03	03/20/24 01:47	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		03/19/24 12:03	03/20/24 01:47	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

Client Sample ID: WES24-05 0.5'

Date Collected: 03/13/24 10:40
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-7

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*102*		*62 - 134*	*03/19/24 12:03*	*03/20/24 01:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**150**		61		mg/Kg		03/20/24 12:17	03/20/24 15:45	20

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

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

Lab Sample ID: MB 885-1849/1-A
Matrix: Solid
Analysis Batch: 2109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1849

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/18/24 11:35	03/20/24 17:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 244*	*03/18/24 11:35*	*03/20/24 17:19*	*1*

Lab Sample ID: LCS 885-1849/2-A
Matrix: Solid
Analysis Batch: 2109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1849

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	26.0		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*222*		*15 - 244*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-1849/1-A
Matrix: Solid
Analysis Batch: 2114

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1849

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/18/24 11:35	03/20/24 17:19	1
Ethylbenzene	ND		0.050		mg/Kg		03/18/24 11:35	03/20/24 17:19	1
Toluene	ND		0.050		mg/Kg		03/18/24 11:35	03/20/24 17:19	1
Xylenes, Total	ND		0.10		mg/Kg		03/18/24 11:35	03/20/24 17:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*	*03/18/24 11:35*	*03/20/24 17:19*	*1*

Lab Sample ID: LCS 885-1849/3-A
Matrix: Solid
Analysis Batch: 2114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1849

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.03		mg/Kg		103	70 - 130		
Ethylbenzene			1.00	1.06		mg/Kg		106	70 - 130		
m,p-Xylene			2.00	2.11		mg/Kg		105	70 - 130		
o-Xylene			1.00	1.06		mg/Kg		106	70 - 130		
Toluene			1.00	1.04		mg/Kg		104	70 - 130		
Xylenes, Total			3.00	3.16		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

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

Lab Sample ID: 885-1289-1 MS
Matrix: Solid
Analysis Batch: 2114

Client Sample ID: WES24-03 2'
Prep Type: Total/NA
Prep Batch: 1849

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.935	0.944		mg/Kg		101	70 - 130
Ethylbenzene	ND		0.935	0.971		mg/Kg		104	70 - 130
m,p-Xylene	ND		1.87	1.94		mg/Kg		104	70 - 130
o-Xylene	ND		0.935	0.969		mg/Kg		104	70 - 130
Toluene	ND		0.935	0.960		mg/Kg		103	70 - 130
Xylenes, Total	ND		2.81	2.91		mg/Kg		104	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*

Lab Sample ID: 885-1289-1 MSD
Matrix: Solid
Analysis Batch: 2114

Client Sample ID: WES24-03 2'
Prep Type: Total/NA
Prep Batch: 1849

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.930	0.986		mg/Kg		106	70 - 130	4	20
Ethylbenzene	ND		0.930	1.02		mg/Kg		110	70 - 130	5	20
m,p-Xylene	ND		1.86	2.06		mg/Kg		111	70 - 130	6	20
o-Xylene	ND		0.930	1.03		mg/Kg		111	70 - 130	6	20
Toluene	ND		0.930	1.01		mg/Kg		108	70 - 130	5	20
Xylenes, Total	ND		2.79	3.09		mg/Kg		111	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*39 - 146*

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

Lab Sample ID: MB 885-1942/1-A
Matrix: Solid
Analysis Batch: 1998

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1942

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		03/19/24 12:03	03/19/24 18:15	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		03/19/24 12:03	03/19/24 18:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*03/19/24 12:03*	*03/19/24 18:15*	*1*

Lab Sample ID: LCS 885-1942/2-A
Matrix: Solid
Analysis Batch: 1998

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1942

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]			50.0	49.5		mg/Kg		99	60 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

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

Lab Sample ID: 885-1289-7 MS
Matrix: Solid
Analysis Batch: 1998

Client Sample ID: WES24-05 0.5'
Prep Type: Total/NA
Prep Batch: 1942

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		48.8	49.0		mg/Kg		101	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*88*		*62 - 134*

Lab Sample ID: 885-1289-7 MSD
Matrix: Solid
Analysis Batch: 1998

Client Sample ID: WES24-05 0.5'
Prep Type: Total/NA
Prep Batch: 1942

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		49.5	50.5		mg/Kg		102	44 - 136	3	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-2010/1-A
Matrix: Solid
Analysis Batch: 2062

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2010

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		03/20/24 12:17	03/20/24 13:22	1

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

GC VOA

Prep Batch: 1849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1289-1	WES24-03 2'	Total/NA	Solid	5030C	
885-1289-2	WES24-04 2'	Total/NA	Solid	5030C	
885-1289-3	BES24-07 0.5'	Total/NA	Solid	5030C	
885-1289-4	BES24-15 0.5'	Total/NA	Solid	5030C	
885-1289-5	BES24-16 0.5'	Total/NA	Solid	5030C	
885-1289-6	BES24-17 0.5'	Total/NA	Solid	5030C	
885-1289-7	WES24-05 0.5'	Total/NA	Solid	5030C	
MB 885-1849/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-1849/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-1849/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-1289-1 MS	WES24-03 2'	Total/NA	Solid	5030C	
885-1289-1 MSD	WES24-03 2'	Total/NA	Solid	5030C	

Analysis Batch: 2109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1289-1	WES24-03 2'	Total/NA	Solid	8015D	1849
885-1289-2	WES24-04 2'	Total/NA	Solid	8015D	1849
885-1289-3	BES24-07 0.5'	Total/NA	Solid	8015D	1849
885-1289-4	BES24-15 0.5'	Total/NA	Solid	8015D	1849
885-1289-5	BES24-16 0.5'	Total/NA	Solid	8015D	1849
885-1289-6	BES24-17 0.5'	Total/NA	Solid	8015D	1849
885-1289-7	WES24-05 0.5'	Total/NA	Solid	8015D	1849
MB 885-1849/1-A	Method Blank	Total/NA	Solid	8015D	1849
LCS 885-1849/2-A	Lab Control Sample	Total/NA	Solid	8015D	1849

Analysis Batch: 2114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1289-1	WES24-03 2'	Total/NA	Solid	8021B	1849
885-1289-2	WES24-04 2'	Total/NA	Solid	8021B	1849
885-1289-3	BES24-07 0.5'	Total/NA	Solid	8021B	1849
885-1289-4	BES24-15 0.5'	Total/NA	Solid	8021B	1849
885-1289-5	BES24-16 0.5'	Total/NA	Solid	8021B	1849
885-1289-6	BES24-17 0.5'	Total/NA	Solid	8021B	1849
885-1289-7	WES24-05 0.5'	Total/NA	Solid	8021B	1849
MB 885-1849/1-A	Method Blank	Total/NA	Solid	8021B	1849
LCS 885-1849/3-A	Lab Control Sample	Total/NA	Solid	8021B	1849
885-1289-1 MS	WES24-03 2'	Total/NA	Solid	8021B	1849
885-1289-1 MSD	WES24-03 2'	Total/NA	Solid	8021B	1849

GC Semi VOA

Prep Batch: 1942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1289-1	WES24-03 2'	Total/NA	Solid	SHAKE	
885-1289-2	WES24-04 2'	Total/NA	Solid	SHAKE	
885-1289-3	BES24-07 0.5'	Total/NA	Solid	SHAKE	
885-1289-4	BES24-15 0.5'	Total/NA	Solid	SHAKE	
885-1289-5	BES24-16 0.5'	Total/NA	Solid	SHAKE	
885-1289-6	BES24-17 0.5'	Total/NA	Solid	SHAKE	
885-1289-7	WES24-05 0.5'	Total/NA	Solid	SHAKE	
MB 885-1942/1-A	Method Blank	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

GC Semi VOA (Continued)

Prep Batch: 1942 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-1942/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-1289-7 MS	WES24-05 0.5'	Total/NA	Solid	SHAKE	
885-1289-7 MSD	WES24-05 0.5'	Total/NA	Solid	SHAKE	

Analysis Batch: 1998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1289-1	WES24-03 2'	Total/NA	Solid	8015D	1942
885-1289-2	WES24-04 2'	Total/NA	Solid	8015D	1942
885-1289-3	BES24-07 0.5'	Total/NA	Solid	8015D	1942
885-1289-4	BES24-15 0.5'	Total/NA	Solid	8015D	1942
885-1289-5	BES24-16 0.5'	Total/NA	Solid	8015D	1942
885-1289-6	BES24-17 0.5'	Total/NA	Solid	8015D	1942
885-1289-7	WES24-05 0.5'	Total/NA	Solid	8015D	1942
MB 885-1942/1-A	Method Blank	Total/NA	Solid	8015D	1942
LCS 885-1942/2-A	Lab Control Sample	Total/NA	Solid	8015D	1942
885-1289-7 MS	WES24-05 0.5'	Total/NA	Solid	8015D	1942
885-1289-7 MSD	WES24-05 0.5'	Total/NA	Solid	8015D	1942

HPLC/IC

Prep Batch: 2010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1289-1	WES24-03 2'	Total/NA	Solid	300_Prep	
885-1289-2	WES24-04 2'	Total/NA	Solid	300_Prep	
885-1289-3	BES24-07 0.5'	Total/NA	Solid	300_Prep	
885-1289-4	BES24-15 0.5'	Total/NA	Solid	300_Prep	
885-1289-5	BES24-16 0.5'	Total/NA	Solid	300_Prep	
885-1289-6	BES24-17 0.5'	Total/NA	Solid	300_Prep	
885-1289-7	WES24-05 0.5'	Total/NA	Solid	300_Prep	
MB 885-2010/1-A	Method Blank	Total/NA	Solid	300_Prep	

Analysis Batch: 2062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1289-2	WES24-04 2'	Total/NA	Solid	300.0	2010
885-1289-4	BES24-15 0.5'	Total/NA	Solid	300.0	2010
885-1289-5	BES24-16 0.5'	Total/NA	Solid	300.0	2010
885-1289-7	WES24-05 0.5'	Total/NA	Solid	300.0	2010
MB 885-2010/1-A	Method Blank	Total/NA	Solid	300.0	2010

Analysis Batch: 2473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1289-1	WES24-03 2'	Total/NA	Solid	300.0	2010
885-1289-3	BES24-07 0.5'	Total/NA	Solid	300.0	2010
885-1289-6	BES24-17 0.5'	Total/NA	Solid	300.0	2010

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

Client Sample ID: WES24-03 2'
Date Collected: 03/13/24 10:00
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8015D		1	2109	RA	EET ALB	03/20/24 18:46
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8021B		1	2114	RA	EET ALB	03/20/24 18:46
Total/NA	Prep	SHAKE			1942	JU	EET ALB	03/19/24 12:03
Total/NA	Analysis	8015D		1	1998	DH	EET ALB	03/19/24 23:25
Total/NA	Prep	300_Prep			2010	JT	EET ALB	03/20/24 12:17
Total/NA	Analysis	300.0		100	2473	KB	EET ALB	03/28/24 15:34

Client Sample ID: WES24-04 2'
Date Collected: 03/13/24 10:05
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8015D		1	2109	RA	EET ALB	03/20/24 19:51
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8021B		1	2114	RA	EET ALB	03/20/24 19:51
Total/NA	Prep	SHAKE			1942	JU	EET ALB	03/19/24 12:03
Total/NA	Analysis	8015D		1	1998	DH	EET ALB	03/19/24 23:49
Total/NA	Prep	300_Prep			2010	JT	EET ALB	03/20/24 12:17
Total/NA	Analysis	300.0		20	2062	KB	EET ALB	03/20/24 14:43

Client Sample ID: BES24-07 0.5'
Date Collected: 03/13/24 10:10
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8015D		1	2109	RA	EET ALB	03/20/24 20:13
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8021B		1	2114	RA	EET ALB	03/20/24 20:13
Total/NA	Prep	SHAKE			1942	JU	EET ALB	03/19/24 12:03
Total/NA	Analysis	8015D		1	1998	DH	EET ALB	03/20/24 00:12
Total/NA	Prep	300_Prep			2010	JT	EET ALB	03/20/24 12:17
Total/NA	Analysis	300.0		50	2473	KB	EET ALB	03/28/24 15:46

Client Sample ID: BES24-15 0.5'
Date Collected: 03/13/24 10:15
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8015D		1	2109	RA	EET ALB	03/20/24 20:35

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

Client Sample ID: BES24-15 0.5'
Date Collected: 03/13/24 10:15
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8021B		1	2114	RA	EET ALB	03/20/24 20:35
Total/NA	Prep	SHAKE			1942	JU	EET ALB	03/19/24 12:03
Total/NA	Analysis	8015D		1	1998	DH	EET ALB	03/20/24 00:36
Total/NA	Prep	300_Prep			2010	JT	EET ALB	03/20/24 12:17
Total/NA	Analysis	300.0		20	2062	KB	EET ALB	03/20/24 15:08

Client Sample ID: BES24-16 0.5'
Date Collected: 03/13/24 10:20
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8015D		1	2109	RA	EET ALB	03/20/24 20:56
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8021B		1	2114	RA	EET ALB	03/20/24 20:56
Total/NA	Prep	SHAKE			1942	JU	EET ALB	03/19/24 12:03
Total/NA	Analysis	8015D		1	1998	DH	EET ALB	03/20/24 00:59
Total/NA	Prep	300_Prep			2010	JT	EET ALB	03/20/24 12:17
Total/NA	Analysis	300.0		20	2062	KB	EET ALB	03/20/24 15:20

Client Sample ID: BES24-17 0.5'
Date Collected: 03/13/24 10:25
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8015D		1	2109	RA	EET ALB	03/20/24 21:18
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8021B		1	2114	RA	EET ALB	03/20/24 21:18
Total/NA	Prep	SHAKE			1942	JU	EET ALB	03/19/24 12:03
Total/NA	Analysis	8015D		1	1998	DH	EET ALB	03/20/24 01:23
Total/NA	Prep	300_Prep			2010	JT	EET ALB	03/20/24 12:17
Total/NA	Analysis	300.0		50	2473	KB	EET ALB	03/28/24 15:59

Client Sample ID: WES24-05 0.5'
Date Collected: 03/13/24 10:40
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8015D		1	2109	RA	EET ALB	03/20/24 21:40
Total/NA	Prep	5030C			1849	IMR	EET ALB	03/18/24 11:35
Total/NA	Analysis	8021B		1	2114	RA	EET ALB	03/20/24 21:40

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

Client Sample ID: WES24-05 0.5'

Date Collected: 03/13/24 10:40
Date Received: 03/15/24 07:40

Lab Sample ID: 885-1289-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			1942	JU	EET ALB	03/19/24 12:03
Total/NA	Analysis	8015D		1	1998	DH	EET ALB	03/20/24 01:47
Total/NA	Prep	300_Prep			2010	JT	EET ALB	03/20/24 12:17
Total/NA	Analysis	300.0		20	2062	KB	EET ALB	03/20/24 15:45

Laboratory References:

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1289-1

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	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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	02-26-25

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	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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

885-1289 COC

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CC CDixon@vertex.ca for Final Report

Chain of Custody

Houston TX (281) 240-4200 Dallas TX (214) 902-0300
Midland TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs NM (575) 392-7550 Carlsbad NM (575) 988-3199

REMARKS: Direct Bill to XTO Energy, Inc., Cost Center #: 1082151001, Incident #: nAPP2331041267 CC. Chance Dixon (CDixon@vertex.ca) for Final Report.

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon (CDixon@vertex ca)	Bill to: (if different)	XTO Energy, Inc
Company Name:	Vertex Resource Services	Company Name:	XTO Energy, Inc
Address:	3101 Boyd Drive	Address:	3104 E Greene St
City, State ZIP	Carlsbad NM, 88220	City, State ZIP	Carlsbad NM, 88220
Phone:	575 725 5001	Email	CC CDixon@vertex.ca for Final Report
Project Name	JRU DI 1A CTB	Turn Around	
Project Number:	23E-04616	Routine X Rush	
Project Location:		Due Date: 5 Day	
Sampler's Name	Deusavan Costa	TAT starts the day received by the lab if received by 4 30pm	
PO #:			

Work Order Comments

Program: UST/PST PRP Brownfields RR Superfund
State of Project,
Reporting Level II Level III PST/UST TRRP Level IV
Deliverables, EDD ADaPT Other:

SAMPLE RECEIPT				
Temp Blank	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID	mark	
Cooler Custody Seals	(Yes) No N/A	Correction Factor:	T0.1	
Sample Custody Seals.	Yes (No) N/A	Temperature Reading.	0.1	
Total Containers.	1	Corrected Temperature:	0.2°C	

Preservative Codes

None: NO DI Water: H_2O
Cool Cool MeOH Me
HCL HC HNO_3 HN
H_2SO_4 H_2 NaOH Na
H_3PO_4 HP
$NaHSO_4$ NABIS
$Na_2S_2O_3$ $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth (ft)	Grab/ Comp	# of Cont	BTEX (8021)	TPH 8015D(GRO / DRO / MRO)	Chloride	Sample Comments
WES24- 03 2'	Soil	03.13.24	10:00	2	Com		X	X	X	1
WES24- 04 2'	Soil	03.13.24	10:05	2	Com		X	X	X	2
BES24- 07 0 5'	Soil	03.13.24	10:10	0.5	Com		X	X	X	3
BES24- 15 0.5'	Soil	03.13.24	10:15	0.5	Com		X	X	X	4
BES24- 16 0 5'	Soil	03.13.24	10:20	0.5	Com		X	X	X	5
BES24- 17 0.5'	Soil	03.13.24	10:25	0.5	Com		X	X	X	6
WES24- 05 0 5'	Soil	03.13.24	10:40	0.5	Com		X	X	X	7

Total 200.7 / 6010 200.8 / 6020. 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245 1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		3/14/24 930	2		3/16/24 7:40
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-1289-1

Login Number: 1289 **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").	N/A	
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 4/2/2024 9:29:58 PM

JOB DESCRIPTION

JRU DI 1A CTB

JOB NUMBER

885-1341-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: JRU DI 1A CTB

Laboratory Job ID: 885-1341-1

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

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: JRU DI 1A CTB

Job ID: 885-1341-1

Job ID: 885-1341-1 Eurofins Albuquerque

Job Narrative
885-1341-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 3/16/2024 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 0.9°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 885-2016 recovered outside acceptance criteria, low biased, for Di-n-octyl phthalate (Surr). Reporting all associated samples with passing surrogate; re-running any with low surrogate. The following samples are associated WES24-06 0-0.5' (885-1341-1), WES24-07 0-0.5' (885-1341-2), WES24-08 0-0.5' (885-1341-3), BES24-213 1.25' (885-1341-4), BES24-225 1.25' (885-1341-5), BES24-226 1.25' (885-1341-6), (CCV 885-2016/28), (CCV 885-2016/42), (LCS 885-1985/2-A), (MB 885-1985/1-A), (885-1341-A-6-D MS) and (885-1341-A-6-E MSD).

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 885-1949 and analytical batch 885-2271 were outside control limits for one or more analytes. Matrix spike is diluted 20x, resulting in poor recovery. See QC Sample Results for details.

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: JRU DI 1A CTB

Job ID: 885-1341-1

Client Sample ID: WES24-06 0-0.5'
Date Collected: 03/14/24 10:30
Date Received: 03/16/24 08:05

Lab Sample ID: 885-1341-1
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		4.8		mg/Kg		03/19/24 11:34	03/23/24 05:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*15 - 244*	*03/19/24 11:34*	*03/23/24 05:55*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/19/24 11:34	03/23/24 05:55	1
Ethylbenzene	ND		0.048		mg/Kg		03/19/24 11:34	03/23/24 05:55	1
Toluene	ND		0.048		mg/Kg		03/19/24 11:34	03/23/24 05:55	1
Xylenes, Total	ND		0.095		mg/Kg		03/19/24 11:34	03/23/24 05:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*03/19/24 11:34*	*03/23/24 05:55*	*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		03/20/24 08:58	03/25/24 20:52	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		03/20/24 08:58	03/25/24 20:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*	*03/20/24 08:58*	*03/25/24 20:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		60		mg/Kg		03/19/24 13:43	03/19/24 22:58	20

Client Sample ID: WES24-07 0-0.5'
Date Collected: 03/14/24 10:35
Date Received: 03/16/24 08:05

Lab Sample ID: 885-1341-2
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		4.7		mg/Kg		03/19/24 11:34	03/23/24 06:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 244*	*03/19/24 11:34*	*03/23/24 06:17*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/19/24 11:34	03/23/24 06:17	1
Ethylbenzene	ND		0.047		mg/Kg		03/19/24 11:34	03/23/24 06:17	1
Toluene	ND		0.047		mg/Kg		03/19/24 11:34	03/23/24 06:17	1
Xylenes, Total	ND		0.094		mg/Kg		03/19/24 11:34	03/23/24 06:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*	*03/19/24 11:34*	*03/23/24 06:17*	*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		03/20/24 08:58	03/20/24 16:37	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		03/20/24 08:58	03/20/24 16:37	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

Client Sample ID: WES24-07 0-0.5'
Date Collected: 03/14/24 10:35
Date Received: 03/16/24 08:05

Lab Sample ID: 885-1341-2
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*62*		*62 - 134*	*03/20/24 08:58*	*03/20/24 16:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**320**		60	mg/Kg		03/19/24 13:43	03/19/24 23:10	20

Client Sample ID: WES24-08 0-0.5'
Date Collected: 03/14/24 10:40
Date Received: 03/16/24 08:05

Lab Sample ID: 885-1341-3
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		4.8	mg/Kg		03/19/24 11:34	03/23/24 06:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*103*		*15 - 244*	*03/19/24 11:34*	*03/23/24 06:39*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		03/19/24 11:34	03/23/24 06:39	1
Ethylbenzene	ND		0.048	mg/Kg		03/19/24 11:34	03/23/24 06:39	1
Toluene	ND		0.048	mg/Kg		03/19/24 11:34	03/23/24 06:39	1
Xylenes, Total	ND		0.096	mg/Kg		03/19/24 11:34	03/23/24 06:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*92*		*39 - 146*	*03/19/24 11:34*	*03/23/24 06:39*	*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		03/20/24 08:58	03/20/24 16:49	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		03/20/24 08:58	03/20/24 16:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*62*		*62 - 134*	*03/20/24 08:58*	*03/20/24 16:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3900**		150	mg/Kg		03/19/24 13:43	03/28/24 15:22	50

Client Sample ID: BES24-213 1.25'
Date Collected: 03/14/24 11:30
Date Received: 03/16/24 08:05

Lab Sample ID: 885-1341-4
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]	ND		4.9	mg/Kg		03/19/24 11:34	03/23/24 07:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*103*		*15 - 244*	*03/19/24 11:34*	*03/23/24 07:01*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		03/19/24 11:34	03/23/24 07:01	1

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

Client Sample ID: BES24-213 1.25'

Lab Sample ID: 885-1341-4
Matrix: Solid
Date Collected: 03/14/24 11:30
Date Received: 03/16/24 08:05

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.049		mg/Kg		03/19/24 11:34	03/23/24 07:01	1
Toluene	ND		0.049		mg/Kg		03/19/24 11:34	03/23/24 07:01	1
Xylenes, Total	ND		0.099		mg/Kg		03/19/24 11:34	03/23/24 07:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*39 - 146*	*03/19/24 11:34*	*03/23/24 07:01*	*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		03/20/24 08:58	03/20/24 17:14	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		03/20/24 08:58	03/20/24 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*65*		*62 - 134*	*03/20/24 08:58*	*03/20/24 17:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		03/19/24 14:21	03/20/24 12:45	20

Client Sample ID: BES24-225 1.25'

Lab Sample ID: 885-1341-5
Matrix: Solid
Date Collected: 03/14/24 11:35
Date Received: 03/16/24 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		4.7		mg/Kg		03/19/24 11:34	03/23/24 07:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*15 - 244*	*03/19/24 11:34*	*03/23/24 07:23*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		03/19/24 11:34	03/23/24 07:23	1
Ethylbenzene	ND		0.047		mg/Kg		03/19/24 11:34	03/23/24 07:23	1
Toluene	ND		0.047		mg/Kg		03/19/24 11:34	03/23/24 07:23	1
Xylenes, Total	ND		0.094		mg/Kg		03/19/24 11:34	03/23/24 07:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*03/19/24 11:34*	*03/23/24 07:23*	*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		03/20/24 08:58	03/20/24 19:04	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		03/20/24 08:58	03/20/24 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*68*		*62 - 134*	*03/20/24 08:58*	*03/20/24 19:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**		60		mg/Kg		03/19/24 14:21	03/19/24 18:59	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

Client Sample ID: BES24-226 1.25'
Date Collected: 03/14/24 11:40
Date Received: 03/16/24 08:05

Lab Sample ID: 885-1341-6
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		4.6		mg/Kg		03/19/24 11:34	03/23/24 07:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*15 - 244*	*03/19/24 11:34*	*03/23/24 07:45*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		03/19/24 11:34	03/23/24 07:45	1
Ethylbenzene	ND		0.046		mg/Kg		03/19/24 11:34	03/23/24 07:45	1
Toluene	ND		0.046		mg/Kg		03/19/24 11:34	03/23/24 07:45	1
Xylenes, Total	ND		0.092		mg/Kg		03/19/24 11:34	03/23/24 07:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*39 - 146*	*03/19/24 11:34*	*03/23/24 07:45*	*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		9.8		mg/Kg		03/20/24 08:58	03/20/24 19:17	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		03/20/24 08:58	03/20/24 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*68*		*62 - 134*	*03/20/24 08:58*	*03/20/24 19:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**120**		60		mg/Kg		03/19/24 14:21	03/19/24 19:36	20

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

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

Lab Sample ID: MB 885-1929/1-A
Matrix: Solid
Analysis Batch: 2216

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1929

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/19/24 10:24	03/22/24 12:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*15 - 244*	*03/19/24 10:24*	*03/22/24 12:30*	*1*

Lab Sample ID: MB 885-1938/1-A
Matrix: Solid
Analysis Batch: 2216

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1938

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		03/19/24 11:34	03/22/24 23:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*15 - 244*	*03/19/24 11:34*	*03/22/24 23:22*	*1*

Lab Sample ID: LCS 885-1938/2-A
Matrix: Solid
Analysis Batch: 2216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1938

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	23.0		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*206*		*15 - 244*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-1929/1-A
Matrix: Solid
Analysis Batch: 2224

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1929

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/19/24 10:24	03/22/24 12:30	1
Ethylbenzene	ND		0.050		mg/Kg		03/19/24 10:24	03/22/24 12:30	1
Toluene	ND		0.050		mg/Kg		03/19/24 10:24	03/22/24 12:30	1
Xylenes, Total	ND		0.10		mg/Kg		03/19/24 10:24	03/22/24 12:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*	*03/19/24 10:24*	*03/22/24 12:30*	*1*

Lab Sample ID: MB 885-1938/1-A
Matrix: Solid
Analysis Batch: 2224

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1938

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		03/19/24 11:34	03/22/24 23:22	1
Ethylbenzene	ND		0.050		mg/Kg		03/19/24 11:34	03/22/24 23:22	1

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

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

Lab Sample ID: MB 885-1938/1-A
Matrix: Solid
Analysis Batch: 2224

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1938

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.050		mg/Kg		03/19/24 11:34	03/22/24 23:22	1
Xylenes, Total	ND		0.10		mg/Kg		03/19/24 11:34	03/22/24 23:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*	*03/19/24 11:34*	*03/22/24 23:22*	*1*

Lab Sample ID: LCS 885-1938/3-A
Matrix: Solid
Analysis Batch: 2224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1938

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.874		mg/Kg		87	70 - 130		
Ethylbenzene			1.00	0.890		mg/Kg		89	70 - 130		
m,p-Xylene			2.00	1.78		mg/Kg		89	70 - 130		
o-Xylene			1.00	0.892		mg/Kg		89	70 - 130		
Toluene			1.00	0.883		mg/Kg		88	70 - 130		
Xylenes, Total			3.00	2.67		mg/Kg		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*

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

Lab Sample ID: MB 885-1985/1-A
Matrix: Solid
Analysis Batch: 2016

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1985

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		03/20/24 08:58	03/20/24 14:47	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		03/20/24 08:58	03/20/24 14:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*89*		*62 - 134*	*03/20/24 08:58*	*03/20/24 14:47*	*1*

Lab Sample ID: LCS 885-1985/2-A
Matrix: Solid
Analysis Batch: 2016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1985

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	44.5		mg/Kg		89	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*89*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

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

Lab Sample ID: 885-1341-6 MS
Matrix: Solid
Analysis Batch: 2016

Client Sample ID: BES24-226 1.25'
Prep Type: Total/NA
Prep Batch: 1985

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	ND		48.5	40.5		mg/Kg		83	44 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*65*		*62 - 134*

Lab Sample ID: 885-1341-6 MSD
Matrix: Solid
Analysis Batch: 2016

Client Sample ID: BES24-226 1.25'
Prep Type: Total/NA
Prep Batch: 1985

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		49.7	41.1		mg/Kg		83	44 - 136	2	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*66*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-1946/1-A
Matrix: Solid
Analysis Batch: 2019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1946

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		03/19/24 13:43	03/19/24 16:35	1

Lab Sample ID: LCS 885-1946/2-A
Matrix: Solid
Analysis Batch: 2019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1946

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			30.0	28.8		mg/Kg		96	90 - 110

Lab Sample ID: MB 885-1949/1-A
Matrix: Solid
Analysis Batch: 2271

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1949

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		03/19/24 14:21	03/19/24 17:33	1

Lab Sample ID: MB 885-1949/1-A
Matrix: Solid
Analysis Batch: 2062

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1949

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		03/19/24 14:21	03/20/24 12:20	1

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-1949/2-A
Matrix: Solid
Analysis Batch: 2271

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1949

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.1		mg/Kg		97	90 - 110		

Lab Sample ID: LCS 885-1949/2-A
Matrix: Solid
Analysis Batch: 2062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1949

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.0		mg/Kg		97	90 - 110		

Lab Sample ID: 885-1341-4 MS
Matrix: Solid
Analysis Batch: 2271

Client Sample ID: BES24-213 1.25'
Prep Type: Total/NA
Prep Batch: 1949

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	ND		30.2	79.2		mg/Kg		NC	50 - 150		

Lab Sample ID: 885-1341-4 MSD
Matrix: Solid
Analysis Batch: 2271

Client Sample ID: BES24-213 1.25'
Prep Type: Total/NA
Prep Batch: 1949

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND		29.9	79.2		mg/Kg		NC	50 - 150	0	20

Lab Sample ID: 885-1341-5 MS
Matrix: Solid
Analysis Batch: 2271

Client Sample ID: BES24-225 1.25'
Prep Type: Total/NA
Prep Batch: 1949

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	130		29.9	152	4	mg/Kg		82	50 - 150		

Lab Sample ID: 885-1341-5 MSD
Matrix: Solid
Analysis Batch: 2271

Client Sample ID: BES24-225 1.25'
Prep Type: Total/NA
Prep Batch: 1949

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	130		29.7	150	4	mg/Kg		77	50 - 150	1	20

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

GC VOA

Prep Batch: 1929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-1929/1-A	Method Blank	Total/NA	Solid	5030C	

Prep Batch: 1938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-1	WES24-06 0-0.5'	Total/NA	Solid	5030C	
885-1341-2	WES24-07 0-0.5'	Total/NA	Solid	5030C	
885-1341-3	WES24-08 0-0.5'	Total/NA	Solid	5030C	
885-1341-4	BES24-213 1.25'	Total/NA	Solid	5030C	
885-1341-5	BES24-225 1.25'	Total/NA	Solid	5030C	
885-1341-6	BES24-226 1.25'	Total/NA	Solid	5030C	
MB 885-1938/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-1938/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-1938/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 2216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-1	WES24-06 0-0.5'	Total/NA	Solid	8015D	1938
885-1341-2	WES24-07 0-0.5'	Total/NA	Solid	8015D	1938
885-1341-3	WES24-08 0-0.5'	Total/NA	Solid	8015D	1938
885-1341-4	BES24-213 1.25'	Total/NA	Solid	8015D	1938
885-1341-5	BES24-225 1.25'	Total/NA	Solid	8015D	1938
885-1341-6	BES24-226 1.25'	Total/NA	Solid	8015D	1938
MB 885-1929/1-A	Method Blank	Total/NA	Solid	8015D	1929
MB 885-1938/1-A	Method Blank	Total/NA	Solid	8015D	1938
LCS 885-1938/2-A	Lab Control Sample	Total/NA	Solid	8015D	1938

Analysis Batch: 2224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-1	WES24-06 0-0.5'	Total/NA	Solid	8021B	1938
885-1341-2	WES24-07 0-0.5'	Total/NA	Solid	8021B	1938
885-1341-3	WES24-08 0-0.5'	Total/NA	Solid	8021B	1938
885-1341-4	BES24-213 1.25'	Total/NA	Solid	8021B	1938
885-1341-5	BES24-225 1.25'	Total/NA	Solid	8021B	1938
885-1341-6	BES24-226 1.25'	Total/NA	Solid	8021B	1938
MB 885-1929/1-A	Method Blank	Total/NA	Solid	8021B	1929
MB 885-1938/1-A	Method Blank	Total/NA	Solid	8021B	1938
LCS 885-1938/3-A	Lab Control Sample	Total/NA	Solid	8021B	1938

GC Semi VOA

Prep Batch: 1985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-1	WES24-06 0-0.5'	Total/NA	Solid	SHAKE	
885-1341-2	WES24-07 0-0.5'	Total/NA	Solid	SHAKE	
885-1341-3	WES24-08 0-0.5'	Total/NA	Solid	SHAKE	
885-1341-4	BES24-213 1.25'	Total/NA	Solid	SHAKE	
885-1341-5	BES24-225 1.25'	Total/NA	Solid	SHAKE	
885-1341-6	BES24-226 1.25'	Total/NA	Solid	SHAKE	
MB 885-1985/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-1985/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-1341-6 MS	BES24-226 1.25'	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

GC Semi VOA (Continued)

Prep Batch: 1985 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-6 MSD	BES24-226 1.25'	Total/NA	Solid	SHAKE	

Analysis Batch: 2016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-2	WES24-07 0-0.5'	Total/NA	Solid	8015D	1985
885-1341-3	WES24-08 0-0.5'	Total/NA	Solid	8015D	1985
885-1341-4	BES24-213 1.25'	Total/NA	Solid	8015D	1985
885-1341-5	BES24-225 1.25'	Total/NA	Solid	8015D	1985
885-1341-6	BES24-226 1.25'	Total/NA	Solid	8015D	1985
MB 885-1985/1-A	Method Blank	Total/NA	Solid	8015D	1985
LCS 885-1985/2-A	Lab Control Sample	Total/NA	Solid	8015D	1985
885-1341-6 MS	BES24-226 1.25'	Total/NA	Solid	8015D	1985
885-1341-6 MSD	BES24-226 1.25'	Total/NA	Solid	8015D	1985

Analysis Batch: 2289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-1	WES24-06 0-0.5'	Total/NA	Solid	8015D	1985

HPLC/IC

Prep Batch: 1946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-1	WES24-06 0-0.5'	Total/NA	Solid	300_Prep	
885-1341-2	WES24-07 0-0.5'	Total/NA	Solid	300_Prep	
885-1341-3	WES24-08 0-0.5'	Total/NA	Solid	300_Prep	
MB 885-1946/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-1946/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Prep Batch: 1949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-4	BES24-213 1.25'	Total/NA	Solid	300_Prep	
885-1341-5	BES24-225 1.25'	Total/NA	Solid	300_Prep	
885-1341-6	BES24-226 1.25'	Total/NA	Solid	300_Prep	
MB 885-1949/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-1949/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
885-1341-4 MS	BES24-213 1.25'	Total/NA	Solid	300_Prep	
885-1341-4 MSD	BES24-213 1.25'	Total/NA	Solid	300_Prep	
885-1341-5 MS	BES24-225 1.25'	Total/NA	Solid	300_Prep	
885-1341-5 MSD	BES24-225 1.25'	Total/NA	Solid	300_Prep	

Analysis Batch: 2019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-1	WES24-06 0-0.5'	Total/NA	Solid	300.0	1946
885-1341-2	WES24-07 0-0.5'	Total/NA	Solid	300.0	1946
MB 885-1946/1-A	Method Blank	Total/NA	Solid	300.0	1946
LCS 885-1946/2-A	Lab Control Sample	Total/NA	Solid	300.0	1946

Analysis Batch: 2062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-4	BES24-213 1.25'	Total/NA	Solid	300.0	1949
MB 885-1949/1-A	Method Blank	Total/NA	Solid	300.0	1949

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

HPLC/IC (Continued)

Analysis Batch: 2062 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-1949/2-A	Lab Control Sample	Total/NA	Solid	300.0	1949

Analysis Batch: 2271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-5	BES24-225 1.25'	Total/NA	Solid	300.0	1949
885-1341-6	BES24-226 1.25'	Total/NA	Solid	300.0	1949
MB 885-1949/1-A	Method Blank	Total/NA	Solid	300.0	1949
LCS 885-1949/2-A	Lab Control Sample	Total/NA	Solid	300.0	1949
885-1341-4 MS	BES24-213 1.25'	Total/NA	Solid	300.0	1949
885-1341-4 MSD	BES24-213 1.25'	Total/NA	Solid	300.0	1949
885-1341-5 MS	BES24-225 1.25'	Total/NA	Solid	300.0	1949
885-1341-5 MSD	BES24-225 1.25'	Total/NA	Solid	300.0	1949

Analysis Batch: 2473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1341-3	WES24-08 0-0.5'	Total/NA	Solid	300.0	1946

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

Client Sample ID: WES24-06 0-0.5'
Lab Sample ID: 885-1341-1
Date Collected: 03/14/24 10:30
Matrix: Solid
Date Received: 03/16/24 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8015D		1	2216	RA	EET ALB	03/23/24 05:55
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8021B		1	2224	RA	EET ALB	03/23/24 05:55
Total/NA	Prep	SHAKE			1985	SB	EET ALB	03/20/24 08:58
Total/NA	Analysis	8015D		1	2289	JU	EET ALB	03/25/24 20:52
Total/NA	Prep	300_Prep			1946	JT	EET ALB	03/19/24 13:43
Total/NA	Analysis	300.0		20	2019	KB	EET ALB	03/19/24 22:58

Client Sample ID: WES24-07 0-0.5'
Lab Sample ID: 885-1341-2
Date Collected: 03/14/24 10:35
Matrix: Solid
Date Received: 03/16/24 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8015D		1	2216	RA	EET ALB	03/23/24 06:17
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8021B		1	2224	RA	EET ALB	03/23/24 06:17
Total/NA	Prep	SHAKE			1985	SB	EET ALB	03/20/24 08:58
Total/NA	Analysis	8015D		1	2016	JU	EET ALB	03/20/24 16:37
Total/NA	Prep	300_Prep			1946	JT	EET ALB	03/19/24 13:43
Total/NA	Analysis	300.0		20	2019	KB	EET ALB	03/19/24 23:10

Client Sample ID: WES24-08 0-0.5'
Lab Sample ID: 885-1341-3
Date Collected: 03/14/24 10:40
Matrix: Solid
Date Received: 03/16/24 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8015D		1	2216	RA	EET ALB	03/23/24 06:39
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8021B		1	2224	RA	EET ALB	03/23/24 06:39
Total/NA	Prep	SHAKE			1985	SB	EET ALB	03/20/24 08:58
Total/NA	Analysis	8015D		1	2016	JU	EET ALB	03/20/24 16:49
Total/NA	Prep	300_Prep			1946	JT	EET ALB	03/19/24 13:43
Total/NA	Analysis	300.0		50	2473	KB	EET ALB	03/28/24 15:22

Client Sample ID: BES24-213 1.25'
Lab Sample ID: 885-1341-4
Date Collected: 03/14/24 11:30
Matrix: Solid
Date Received: 03/16/24 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8015D		1	2216	RA	EET ALB	03/23/24 07:01

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

Client Sample ID: BES24-213 1.25'
Date Collected: 03/14/24 11:30
Date Received: 03/16/24 08:05

Lab Sample ID: 885-1341-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8021B		1	2224	RA	EET ALB	03/23/24 07:01
Total/NA	Prep	SHAKE			1985	SB	EET ALB	03/20/24 08:58
Total/NA	Analysis	8015D		1	2016	JU	EET ALB	03/20/24 17:14
Total/NA	Prep	300_Prep			1949	JT	EET ALB	03/19/24 14:21
Total/NA	Analysis	300.0		20	2062	KB	EET ALB	03/20/24 12:45

Client Sample ID: BES24-225 1.25'
Date Collected: 03/14/24 11:35
Date Received: 03/16/24 08:05

Lab Sample ID: 885-1341-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8015D		1	2216	RA	EET ALB	03/23/24 07:23
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8021B		1	2224	RA	EET ALB	03/23/24 07:23
Total/NA	Prep	SHAKE			1985	SB	EET ALB	03/20/24 08:58
Total/NA	Analysis	8015D		1	2016	JU	EET ALB	03/20/24 19:04
Total/NA	Prep	300_Prep			1949	JT	EET ALB	03/19/24 14:21
Total/NA	Analysis	300.0		20	2271	RC	EET ALB	03/19/24 18:59

Client Sample ID: BES24-226 1.25'
Date Collected: 03/14/24 11:40
Date Received: 03/16/24 08:05

Lab Sample ID: 885-1341-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8015D		1	2216	RA	EET ALB	03/23/24 07:45
Total/NA	Prep	5030C			1938	IMR	EET ALB	03/19/24 11:34
Total/NA	Analysis	8021B		1	2224	RA	EET ALB	03/23/24 07:45
Total/NA	Prep	SHAKE			1985	SB	EET ALB	03/20/24 08:58
Total/NA	Analysis	8015D		1	2016	JU	EET ALB	03/20/24 19:17
Total/NA	Prep	300_Prep			1949	JT	EET ALB	03/19/24 14:21
Total/NA	Analysis	300.0		20	2271	RC	EET ALB	03/19/24 19:36

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-1341-1

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	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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	02-26-25

eurofins | Environment Testing
Xenco HALL

CC: CDixon@vertex.ca for Final Report

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

885-1341 COC

REMARKS: Direct Bill to XTO Energy, Inc., Cost Center #: 1082151001, Incident #: nAPP2331041267 CC. Chance Dixon (CDixon@vertex.ca) for Final Report.

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon (CDixon@vertex.ca)	Bill to: (if different)	XTO Energy, Inc.
Company Name:	Vertex Resource Services	Company Name:	XTO Energy, Inc.
Address:	3101 Boyd Drive	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad NM, 88220	City, State ZIP:	Carlsbad NM, 88220
Phone:	575.725.5001	Email:	CC: CDixon@vertex.ca for Final Report
Project Name:	JRU DI 1A CTB	Turn Around	
Project Number:	23E-04616	Routine X Rush X	
Project Location:		Due Date: 5 DAY	
Sampler's Name:	Deusavan Costa	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

Work Order Comments

Program: UST/PST PRP Brownfields RR Superfund
State of Project:
Reporting: Level II Level III PST/UST TRRP Level IV
Deliverables: EDD ADaPT Other:

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:		
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Temperature Reading:		
Total Containers:		Corrected Temperature:		

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth (ft)	Grab/ Comp	# of Cont	Parameters: BTEX (8021)	TPH:8015D(GRO / DRO / MRO)	Chloride	Sample Comments
WES24-06 0-0.5'	Soil	03.14.24	10:30	1	Com		X	X	X	1341
WES24-07 0-0.5'	Soil	03.14.24	10:35	1	Com		X	X	X	2
WES24-08 0-0.5'	Soil	03.14.24	10:40	1	Com		X	X	X	3
BES24-213 1.25'	Soil	03.14.24	11:30	1	Com		X	X	X	4
BES24-225 1.25'	Soil	03.14.24	11:35	1	Com		X	X	X	5
BES24-226 1.25'	Soil	03.14.24	11:40	1	Com		X	X	X	6

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

0.9 - 0 = 0.9 Log

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		3/15/24 1000	2		3/16/24 0805
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-1341-1

Login Number: 1341 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Cason, Cheyenne

Question	Answer	Comment
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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/18/2024 12:05:01 PM

JOB DESCRIPTION

JRU DI IA CTB

JOB NUMBER

885-2783-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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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4/18/2024 12:05:01 PM

Authorized for release by
Andy Freeman, Business Unit Manager
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(505)345-3975

Client: Vertex
Project/Site: JRU DI IA CTB

Laboratory Job ID: 885-2783-1

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery 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: JRU DI IA CTB

Job ID: 885-2783-1

Job ID: 885-2783-1 Eurofins Albuquerque

Job Narrative
885-2783-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 4/12/2024 7:50 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 4.9°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
Method 300_ORGFM_28D - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-78412 and analytical batch 880-78530 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.

WES24-09 2ft (885-2783-1), BES24-07 1.5ft (885-2783-2) and BES24-16 1ft (885-2783-3)

Method 300_ORGFM_28D - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-78412 and analytical batch 880-78530 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.

BES24-17 1ft (885-2783-4), WES24-10 0.5ft (885-2783-5), (885-2783-B-4-B MS) and (885-2783-B-4-C MSD)

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: JRU DI IA CTB

Job ID: 885-2783-1

Client Sample ID: WES24-09 2ft

Date Collected: 04/08/24 10:00
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-1

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		4.8		mg/Kg		04/12/24 17:15	04/16/24 21:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*15 - 244*	*04/12/24 17:15*	*04/16/24 21:28*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/12/24 17:15	04/16/24 21:28	1
Ethylbenzene	ND		0.048		mg/Kg		04/12/24 17:15	04/16/24 21:28	1
Toluene	ND		0.048		mg/Kg		04/12/24 17:15	04/16/24 21:28	1
Xylenes, Total	ND		0.096		mg/Kg		04/12/24 17:15	04/16/24 21:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*04/12/24 17:15*	*04/16/24 21:28*	*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		04/15/24 13:24	04/15/24 19:17	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		04/15/24 13:24	04/15/24 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*04/15/24 13:24*	*04/15/24 19:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**		50		mg/Kg			04/17/24 22:33	10

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

Client Sample ID: BES24-07 1.5ft

Date Collected: 04/09/24 10:00
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-2

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		4.8		mg/Kg		04/12/24 17:15	04/16/24 22:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*15 - 244*	*04/12/24 17:15*	*04/16/24 22:35*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/12/24 17:15	04/16/24 22:35	1
Ethylbenzene	ND		0.048		mg/Kg		04/12/24 17:15	04/16/24 22:35	1
Toluene	ND		0.048		mg/Kg		04/12/24 17:15	04/16/24 22:35	1
Xylenes, Total	ND		0.097		mg/Kg		04/12/24 17:15	04/16/24 22:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*	*04/12/24 17:15*	*04/16/24 22:35*	*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		04/15/24 13:24	04/15/24 19:29	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		04/15/24 13:24	04/15/24 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*04/15/24 13:24*	*04/15/24 19:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2700**		50		mg/Kg			04/17/24 22:38	10

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

Client Sample ID: BES24-16 1ft

Date Collected: 04/09/24 10:30
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-3

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		4.8		mg/Kg		04/12/24 17:15	04/16/24 23:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*15 - 244*	*04/12/24 17:15*	*04/16/24 23:42*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/12/24 17:15	04/16/24 23:42	1
Ethylbenzene	ND		0.048		mg/Kg		04/12/24 17:15	04/16/24 23:42	1
Toluene	ND		0.048		mg/Kg		04/12/24 17:15	04/16/24 23:42	1
Xylenes, Total	ND		0.096		mg/Kg		04/12/24 17:15	04/16/24 23:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*	*04/12/24 17:15*	*04/16/24 23:42*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.9		mg/Kg		04/15/24 13:24	04/15/24 19:41	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		04/15/24 13:24	04/15/24 19:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*04/15/24 13:24*	*04/15/24 19:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4300**		100		mg/Kg			04/17/24 22:43	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

Client Sample ID: BES24-17 1ft
Date Collected: 04/09/24 12:00
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-4
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]	ND		4.6		mg/Kg		04/12/24 17:15	04/17/24 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*15 - 244*	*04/12/24 17:15*	*04/17/24 00:04*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		04/12/24 17:15	04/17/24 00:04	1
Ethylbenzene	ND		0.046		mg/Kg		04/12/24 17:15	04/17/24 00:04	1
Toluene	ND		0.046		mg/Kg		04/12/24 17:15	04/17/24 00:04	1
Xylenes, Total	ND		0.092		mg/Kg		04/12/24 17:15	04/17/24 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*04/12/24 17:15*	*04/17/24 00:04*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.7		mg/Kg		04/15/24 13:24	04/15/24 19:54	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		04/15/24 13:24	04/15/24 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*04/15/24 13:24*	*04/15/24 19:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**770**	**F1**	51		mg/Kg			04/17/24 22:48	10

Client Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

Client Sample ID: WES24-10 0.5ft

Date Collected: 04/09/24 12:30
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-5

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]	ND		4.9		mg/Kg		04/12/24 17:15	04/17/24 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*15 - 244*	*04/12/24 17:15*	*04/17/24 00:26*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/12/24 17:15	04/17/24 00:26	1
Ethylbenzene	ND		0.049		mg/Kg		04/12/24 17:15	04/17/24 00:26	1
Toluene	ND		0.049		mg/Kg		04/12/24 17:15	04/17/24 00:26	1
Xylenes, Total	ND		0.098		mg/Kg		04/12/24 17:15	04/17/24 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*	*04/12/24 17:15*	*04/17/24 00:26*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.4		mg/Kg		04/15/24 13:24	04/15/24 20:06	1
Motor Oil Range Organics [C28-C40]	ND		42		mg/Kg		04/15/24 13:24	04/15/24 20:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*	*04/15/24 13:24*	*04/15/24 20:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		25		mg/Kg			04/17/24 23:02	5

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

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

Lab Sample ID: MB 885-3206/1-A
Matrix: Solid
Analysis Batch: 3430

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3206

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		04/12/24 13:27	04/16/24 10:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*15 - 244*	*04/12/24 13:27*	*04/16/24 10:07*	*1*

Lab Sample ID: MB 885-3240/1-A
Matrix: Solid
Analysis Batch: 3430

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3240

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		04/12/24 17:15	04/16/24 21:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*15 - 244*	*04/12/24 17:15*	*04/16/24 21:06*	*1*

Lab Sample ID: LCS 885-3240/2-A
Matrix: Solid
Analysis Batch: 3430

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3240

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)	*226*		*15 - 244*

Lab Sample ID: 885-2783-1 MS
Matrix: Solid
Analysis Batch: 3430

Client Sample ID: WES24-09 2ft
Prep Type: Total/NA
Prep Batch: 3240

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		24.3	23.5		mg/Kg		97	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*224*		*15 - 244*

Lab Sample ID: 885-2783-1 MSD
Matrix: Solid
Analysis Batch: 3430

Client Sample ID: WES24-09 2ft
Prep Type: Total/NA
Prep Batch: 3240

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		24.2	24.0		mg/Kg		99	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*224*		*15 - 244*

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-3206/1-A
Matrix: Solid
Analysis Batch: 3432

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3206

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/12/24 13:27	04/16/24 10:07	1
Ethylbenzene	ND		0.050		mg/Kg		04/12/24 13:27	04/16/24 10:07	1
Toluene	ND		0.050		mg/Kg		04/12/24 13:27	04/16/24 10:07	1
Xylenes, Total	ND		0.10		mg/Kg		04/12/24 13:27	04/16/24 10:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*39 - 146*	*04/12/24 13:27*	*04/16/24 10:07*	*1*

Lab Sample ID: MB 885-3240/1-A
Matrix: Solid
Analysis Batch: 3432

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3240

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/12/24 17:15	04/16/24 21:06	1
Ethylbenzene	ND		0.050		mg/Kg		04/12/24 17:15	04/16/24 21:06	1
Toluene	ND		0.050		mg/Kg		04/12/24 17:15	04/16/24 21:06	1
Xylenes, Total	ND		0.10		mg/Kg		04/12/24 17:15	04/16/24 21:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*04/12/24 17:15*	*04/16/24 21:06*	*1*

Lab Sample ID: LCS 885-3240/3-A
Matrix: Solid
Analysis Batch: 3432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3240

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.962		mg/Kg		96	70 - 130		
Ethylbenzene			1.00	0.971		mg/Kg		97	70 - 130		
m,p-Xylene			2.00	1.95		mg/Kg		98	70 - 130		
o-Xylene			1.00	0.988		mg/Kg		99	70 - 130		
Toluene			1.00	0.956		mg/Kg		96	70 - 130		
Xylenes, Total			3.00	2.94		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*39 - 146*

Lab Sample ID: 885-2783-2 MS
Matrix: Solid
Analysis Batch: 3432

Client Sample ID: BES24-07 1.5ft
Prep Type: Total/NA
Prep Batch: 3240

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.968	0.883		mg/Kg		91	70 - 130		
Ethylbenzene	ND		0.968	0.910		mg/Kg		94	70 - 130		
m,p-Xylene	ND		1.94	1.83		mg/Kg		94	70 - 130		
o-Xylene	ND		0.968	0.916		mg/Kg		95	70 - 130		
Toluene	ND		0.968	0.888		mg/Kg		92	70 - 130		
Xylenes, Total	ND		2.90	2.74		mg/Kg		94	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

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

Lab Sample ID: 885-2783-2 MS
Matrix: Solid
Analysis Batch: 3432

Client Sample ID: BES24-07 1.5ft
Prep Type: Total/NA
Prep Batch: 3240

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*89*		*39 - 146*

Lab Sample ID: 885-2783-2 MSD
Matrix: Solid
Analysis Batch: 3432

Client Sample ID: BES24-07 1.5ft
Prep Type: Total/NA
Prep Batch: 3240

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.963	0.872		mg/Kg		91	70 - 130	1	20
Ethylbenzene	ND		0.963	0.897		mg/Kg		93	70 - 130	1	20
m,p-Xylene	ND		1.93	1.80		mg/Kg		93	70 - 130	2	20
o-Xylene	ND		0.963	0.904		mg/Kg		94	70 - 130	1	20
Toluene	ND		0.963	0.880		mg/Kg		91	70 - 130	1	20
Xylenes, Total	ND		2.89	2.70		mg/Kg		93	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*

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

Lab Sample ID: MB 885-3301/1-A
Matrix: Solid
Analysis Batch: 3332

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3301

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		04/15/24 13:24	04/15/24 18:02	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		04/15/24 13:24	04/15/24 18:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*	*04/15/24 13:24*	*04/15/24 18:02*	*1*

Lab Sample ID: LCS 885-3301/2-A
Matrix: Solid
Analysis Batch: 3332

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3301

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	47.4		mg/Kg		95	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-78412/1-A
Matrix: Solid
Analysis Batch: 78530

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		5.0		mg/Kg			04/17/24 21:25	1

Lab Sample ID: LCS 880-78412/2-A
Matrix: Solid
Analysis Batch: 78530

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-78412/3-A
Matrix: Solid
Analysis Batch: 78530

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 885-2783-4 MS
Matrix: Solid
Analysis Batch: 78530

Client Sample ID: BES24-17 1ft
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	770	F1	2530	3620	F1	mg/Kg		113	90 - 110		

Lab Sample ID: 885-2783-4 MSD
Matrix: Solid
Analysis Batch: 78530

Client Sample ID: BES24-17 1ft
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	770	F1	2530	3620	F1	mg/Kg		113	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

GC VOA

Prep Batch: 3206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-3206/1-A	Method Blank	Total/NA	Solid	5030C	

Prep Batch: 3240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2783-1	WES24-09 2ft	Total/NA	Solid	5030C	
885-2783-2	BES24-07 1.5ft	Total/NA	Solid	5030C	
885-2783-3	BES24-16 1ft	Total/NA	Solid	5030C	
885-2783-4	BES24-17 1ft	Total/NA	Solid	5030C	
885-2783-5	WES24-10 0.5ft	Total/NA	Solid	5030C	
MB 885-3240/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-3240/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-3240/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-2783-1 MS	WES24-09 2ft	Total/NA	Solid	5030C	
885-2783-1 MSD	WES24-09 2ft	Total/NA	Solid	5030C	
885-2783-2 MS	BES24-07 1.5ft	Total/NA	Solid	5030C	
885-2783-2 MSD	BES24-07 1.5ft	Total/NA	Solid	5030C	

Analysis Batch: 3430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2783-1	WES24-09 2ft	Total/NA	Solid	8015D	3240
885-2783-2	BES24-07 1.5ft	Total/NA	Solid	8015D	3240
885-2783-3	BES24-16 1ft	Total/NA	Solid	8015D	3240
885-2783-4	BES24-17 1ft	Total/NA	Solid	8015D	3240
885-2783-5	WES24-10 0.5ft	Total/NA	Solid	8015D	3240
MB 885-3206/1-A	Method Blank	Total/NA	Solid	8015D	3206
MB 885-3240/1-A	Method Blank	Total/NA	Solid	8015D	3240
LCS 885-3240/2-A	Lab Control Sample	Total/NA	Solid	8015D	3240
885-2783-1 MS	WES24-09 2ft	Total/NA	Solid	8015D	3240
885-2783-1 MSD	WES24-09 2ft	Total/NA	Solid	8015D	3240

Analysis Batch: 3432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2783-1	WES24-09 2ft	Total/NA	Solid	8021B	3240
885-2783-2	BES24-07 1.5ft	Total/NA	Solid	8021B	3240
885-2783-3	BES24-16 1ft	Total/NA	Solid	8021B	3240
885-2783-4	BES24-17 1ft	Total/NA	Solid	8021B	3240
885-2783-5	WES24-10 0.5ft	Total/NA	Solid	8021B	3240
MB 885-3206/1-A	Method Blank	Total/NA	Solid	8021B	3206
MB 885-3240/1-A	Method Blank	Total/NA	Solid	8021B	3240
LCS 885-3240/3-A	Lab Control Sample	Total/NA	Solid	8021B	3240
885-2783-2 MS	BES24-07 1.5ft	Total/NA	Solid	8021B	3240
885-2783-2 MSD	BES24-07 1.5ft	Total/NA	Solid	8021B	3240

GC Semi VOA

Prep Batch: 3301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2783-1	WES24-09 2ft	Total/NA	Solid	SHAKE	
885-2783-2	BES24-07 1.5ft	Total/NA	Solid	SHAKE	
885-2783-3	BES24-16 1ft	Total/NA	Solid	SHAKE	
885-2783-4	BES24-17 1ft	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

GC Semi VOA (Continued)

Prep Batch: 3301 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2783-5	WES24-10 0.5ft	Total/NA	Solid	SHAKE	
MB 885-3301/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-3301/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 3332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2783-1	WES24-09 2ft	Total/NA	Solid	8015D	3301
885-2783-2	BES24-07 1.5ft	Total/NA	Solid	8015D	3301
885-2783-3	BES24-16 1ft	Total/NA	Solid	8015D	3301
885-2783-4	BES24-17 1ft	Total/NA	Solid	8015D	3301
885-2783-5	WES24-10 0.5ft	Total/NA	Solid	8015D	3301
MB 885-3301/1-A	Method Blank	Total/NA	Solid	8015D	3301
LCS 885-3301/2-A	Lab Control Sample	Total/NA	Solid	8015D	3301

HPLC/IC

Leach Batch: 78412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2783-1	WES24-09 2ft	Soluble	Solid	DI Leach	
885-2783-2	BES24-07 1.5ft	Soluble	Solid	DI Leach	
885-2783-3	BES24-16 1ft	Soluble	Solid	DI Leach	
885-2783-4	BES24-17 1ft	Soluble	Solid	DI Leach	
885-2783-5	WES24-10 0.5ft	Soluble	Solid	DI Leach	
MB 880-78412/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-78412/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-78412/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
885-2783-4 MS	BES24-17 1ft	Soluble	Solid	DI Leach	
885-2783-4 MSD	BES24-17 1ft	Soluble	Solid	DI Leach	

Analysis Batch: 78530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2783-1	WES24-09 2ft	Soluble	Solid	300.0	78412
885-2783-2	BES24-07 1.5ft	Soluble	Solid	300.0	78412
885-2783-3	BES24-16 1ft	Soluble	Solid	300.0	78412
885-2783-4	BES24-17 1ft	Soluble	Solid	300.0	78412
885-2783-5	WES24-10 0.5ft	Soluble	Solid	300.0	78412
MB 880-78412/1-A	Method Blank	Soluble	Solid	300.0	78412
LCS 880-78412/2-A	Lab Control Sample	Soluble	Solid	300.0	78412
LCSD 880-78412/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	78412
885-2783-4 MS	BES24-17 1ft	Soluble	Solid	300.0	78412
885-2783-4 MSD	BES24-17 1ft	Soluble	Solid	300.0	78412

Lab Chronicle

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

Client Sample ID: WES24-09 2ft
Date Collected: 04/08/24 10:00
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8015D		1	3430	RA	EET ALB	04/16/24 21:28
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8021B		1	3432	RA	EET ALB	04/16/24 21:28
Total/NA	Prep	SHAKE			3301	JU	EET ALB	04/15/24 13:24
Total/NA	Analysis	8015D		1	3332	JU	EET ALB	04/15/24 19:17
Soluble	Leach	DI Leach			78412	SA	EET MID	04/16/24 14:52
Soluble	Analysis	300.0		10	78530	SMC	EET MID	04/17/24 22:33

Client Sample ID: BES24-07 1.5ft
Date Collected: 04/09/24 10:00
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8015D		1	3430	RA	EET ALB	04/16/24 22:35
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8021B		1	3432	RA	EET ALB	04/16/24 22:35
Total/NA	Prep	SHAKE			3301	JU	EET ALB	04/15/24 13:24
Total/NA	Analysis	8015D		1	3332	JU	EET ALB	04/15/24 19:29
Soluble	Leach	DI Leach			78412	SA	EET MID	04/16/24 14:52
Soluble	Analysis	300.0		10	78530	SMC	EET MID	04/17/24 22:38

Client Sample ID: BES24-16 1ft
Date Collected: 04/09/24 10:30
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8015D		1	3430	RA	EET ALB	04/16/24 23:42
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8021B		1	3432	RA	EET ALB	04/16/24 23:42
Total/NA	Prep	SHAKE			3301	JU	EET ALB	04/15/24 13:24
Total/NA	Analysis	8015D		1	3332	JU	EET ALB	04/15/24 19:41
Soluble	Leach	DI Leach			78412	SA	EET MID	04/16/24 14:52
Soluble	Analysis	300.0		20	78530	SMC	EET MID	04/17/24 22:43

Client Sample ID: BES24-17 1ft
Date Collected: 04/09/24 12:00
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8015D		1	3430	RA	EET ALB	04/17/24 00:04

Lab Chronicle

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

Client Sample ID: BES24-17 1ft

Date Collected: 04/09/24 12:00
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8021B		1	3432	RA	EET ALB	04/17/24 00:04
Total/NA	Prep	SHAKE			3301	JU	EET ALB	04/15/24 13:24
Total/NA	Analysis	8015D		1	3332	JU	EET ALB	04/15/24 19:54
Soluble	Leach	DI Leach			78412	SA	EET MID	04/16/24 14:52
Soluble	Analysis	300.0		10	78530	SMC	EET MID	04/17/24 22:48

Client Sample ID: WES24-10 0.5ft

Date Collected: 04/09/24 12:30
Date Received: 04/12/24 07:50

Lab Sample ID: 885-2783-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8015D		1	3430	RA	EET ALB	04/17/24 00:26
Total/NA	Prep	5030C			3240	JP	EET ALB	04/12/24 17:15
Total/NA	Analysis	8021B		1	3432	RA	EET ALB	04/17/24 00:26
Total/NA	Prep	SHAKE			3301	JU	EET ALB	04/15/24 13:24
Total/NA	Analysis	8015D		1	3332	JU	EET ALB	04/15/24 20:06
Soluble	Leach	DI Leach			78412	SA	EET MID	04/16/24 14:52
Soluble	Analysis	300.0		5	78530	SMC	EET MID	04/17/24 23:02

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: JRU DI IA CTB

Job ID: 885-2783-1

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
8015D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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	02-26-25

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

Chain-of-Custody Record

Client: Vertex (XTO)

Mailing Address: On File

Phone #: On File

email or Fax#: Cdixon@vertex.ca

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

☑ Standard ☑ Rush 5 Days

Project Name: JRU DI 1A CTB

Project #: 23E-04616

Project Manager: Chance Dixon

Sampler: Wyatt Wadleigh

On Ice: ☑ Yes ☐ No 4.09

# of Coolers: 1

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

HALL ENVIRONMENTAL ANALYSIS LABORA

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

885-2783 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)
04/08/24	10:00	Soil	WES24-09 2ft	1, 4oz jar			X	X					X			
04/09/24	10:00	Soil	BES24-07 1.5 ft	1, 4oz jar			X	X					X			
04/09/24	10:30	Soil	BES24-16 1 ft	1, 4oz jar			X	X					X			
04/09/24	12:00	Soil	BES24-17 1ft	1, 4oz jar			X	X					X			
04/09/24	12:30	Soil	WES24-10 0.5ft	1, 4oz jar			X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
		Wyatt Wadleigh			4/11/24	1015
4/11/24	1910			Courier	4/12/24	7:50

Remarks: Please CC wwadleigh@vertex.ca

Cost center Number: 1082151001

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: 885-2783-1

Login Number: 2783 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Rojas, Juan

Question	Answer	Comment
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").	N/A	

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-2783-1

Login Number: 2783
List Number: 2
Creator: Vasquez, Julisa

List Source: Eurofins Midland
List Creation: 04/17/24 12:03 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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").	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Sally Carttar
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 4/30/2024 9:20:34 PM

JOB DESCRIPTION

JRU DI 1

JOB NUMBER

885-3429-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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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Client: Vertex
Project/Site: JRU DI 1

Laboratory Job ID: 885-3429-1

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

Qualifiers

GC Semi VOA

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: JRU DI 1

Job ID: 885-3429-1

Job ID: 885-3429-1 Eurofins Albuquerque

Job Narrative
885-3429-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 4/25/2024 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 1.0°C.

Receipt Exceptions
The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): BES24-07 2.5ft (885-3429-1), BES24-16 2ft (885-3429-2) and BES24-17 2ft (885-3429-3). The container labels list 4/23/24, while the COC lists 4/19/2024. The client was contacted, and the lab was instructed to move forward with collection date of 4/23/2024

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 matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 885-3969 and analytical batch 885-4095 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
Project/Site: JRU DI 1

Job ID: 885-3429-1

Client Sample ID: BES24-07 2.5ft

Date Collected: 04/23/24 14:15
Date Received: 04/25/24 08:00

Lab Sample ID: 885-3429-1

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		4.6		mg/Kg		04/25/24 14:06	04/26/24 23:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 244*	*04/25/24 14:06*	*04/26/24 23:53*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		04/25/24 14:06	04/26/24 23:53	1
Ethylbenzene	ND		0.046		mg/Kg		04/25/24 14:06	04/26/24 23:53	1
Toluene	ND		0.046		mg/Kg		04/25/24 14:06	04/26/24 23:53	1
Xylenes, Total	ND		0.092		mg/Kg		04/25/24 14:06	04/26/24 23:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*39 - 146*	*04/25/24 14:06*	*04/26/24 23:53*	*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		9.6		mg/Kg		04/26/24 13:39	04/29/24 21:22	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		04/26/24 13:39	04/29/24 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*84*		*62 - 134*	*04/26/24 13:39*	*04/29/24 21:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**		25		mg/Kg			04/30/24 15:09	5

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

Client Sample ID: BES24-16 2ft
Date Collected: 04/23/24 14:45
Date Received: 04/25/24 08:00

Lab Sample ID: 885-3429-2
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		4.8		mg/Kg		04/25/24 14:06	04/27/24 01:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*15 - 244*	*04/25/24 14:06*	*04/27/24 01:04*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/25/24 14:06	04/27/24 01:04	1
Ethylbenzene	ND		0.048		mg/Kg		04/25/24 14:06	04/27/24 01:04	1
Toluene	ND		0.048		mg/Kg		04/25/24 14:06	04/27/24 01:04	1
Xylenes, Total	ND		0.096		mg/Kg		04/25/24 14:06	04/27/24 01:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*39 - 146*	*04/25/24 14:06*	*04/27/24 01:04*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		04/26/24 13:39	04/29/24 21:33	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		04/26/24 13:39	04/29/24 21:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*84*		*62 - 134*	*04/26/24 13:39*	*04/29/24 21:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**890**		25		mg/Kg			04/30/24 15:16	5

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

Client Sample ID: BES24-17 2ft

Date Collected: 04/23/24 12:30
Date Received: 04/25/24 08:00

Lab Sample ID: 885-3429-3

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		4.6		mg/Kg		04/25/24 14:06	04/27/24 02:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 244*	*04/25/24 14:06*	*04/27/24 02:14*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		04/25/24 14:06	04/27/24 02:14	1
Ethylbenzene	ND		0.046		mg/Kg		04/25/24 14:06	04/27/24 02:14	1
Toluene	ND		0.046		mg/Kg		04/25/24 14:06	04/27/24 02:14	1
Xylenes, Total	ND		0.092		mg/Kg		04/25/24 14:06	04/27/24 02:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*39 - 146*	*04/25/24 14:06*	*04/27/24 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	F2	8.7		mg/Kg		04/26/24 13:39	04/29/24 21:44	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		04/26/24 13:39	04/29/24 21:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*88*		*62 - 134*	*04/26/24 13:39*	*04/29/24 21:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**240**		5.0		mg/Kg			04/30/24 15:22	1

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

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

Lab Sample ID: MB 885-3900/1-A
Matrix: Solid
Analysis Batch: 4035

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3900

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		04/25/24 14:06	04/26/24 23:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 244*	*04/25/24 14:06*	*04/26/24 23:29*	*1*

Lab Sample ID: LCS 885-3900/2-A
Matrix: Solid
Analysis Batch: 4035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3900

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	24.1		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*212*		*15 - 244*

Lab Sample ID: 885-3429-1 MS
Matrix: Solid
Analysis Batch: 4035

Client Sample ID: BES24-07 2.5ft
Prep Type: Total/NA
Prep Batch: 3900

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		23.2	24.4		mg/Kg		105	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*222*		*15 - 244*

Lab Sample ID: 885-3429-1 MSD
Matrix: Solid
Analysis Batch: 4035

Client Sample ID: BES24-07 2.5ft
Prep Type: Total/NA
Prep Batch: 3900

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		23.1	23.5		mg/Kg		101	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*219*		*15 - 244*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-3900/1-A
Matrix: Solid
Analysis Batch: 4036

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3900

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/25/24 14:06	04/26/24 23:29	1
Ethylbenzene	ND		0.050		mg/Kg		04/25/24 14:06	04/26/24 23:29	1
Toluene	ND		0.050		mg/Kg		04/25/24 14:06	04/26/24 23:29	1

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

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

Lab Sample ID: MB 885-3900/1-A
Matrix: Solid
Analysis Batch: 4036

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3900

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		04/25/24 14:06	04/26/24 23:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*39 - 146*	*04/25/24 14:06*	*04/26/24 23:29*	*1*

Lab Sample ID: LCS 885-3900/3-A
Matrix: Solid
Analysis Batch: 4036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3900

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.837		mg/Kg		84	70 - 130		
Ethylbenzene			1.00	0.814		mg/Kg		81	70 - 130		
m,p-Xylene			2.00	1.64		mg/Kg		82	70 - 130		
o-Xylene			1.00	0.809		mg/Kg		81	70 - 130		
Toluene			1.00	0.804		mg/Kg		80	70 - 130		
Xylenes, Total			3.00	2.45		mg/Kg		82	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*39 - 146*

Lab Sample ID: 885-3429-2 MS
Matrix: Solid
Analysis Batch: 4036

Client Sample ID: BES24-16 2ft
Prep Type: Total/NA
Prep Batch: 3900

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.957	0.890		mg/Kg		93	70 - 130		
Ethylbenzene	ND		0.957	0.876		mg/Kg		92	70 - 130		
m,p-Xylene	ND		1.91	1.77		mg/Kg		91	70 - 130		
o-Xylene	ND		0.957	0.863		mg/Kg		90	70 - 130		
Toluene	ND		0.957	0.855		mg/Kg		88	70 - 130		
Xylenes, Total	ND		2.87	2.63		mg/Kg		91	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*39 - 146*

Lab Sample ID: 885-3429-2 MSD
Matrix: Solid
Analysis Batch: 4036

Client Sample ID: BES24-16 2ft
Prep Type: Total/NA
Prep Batch: 3900

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.955	0.902		mg/Kg		94	70 - 130	1	20
Ethylbenzene	ND		0.955	0.896		mg/Kg		94	70 - 130	2	20
m,p-Xylene	ND		1.91	1.81		mg/Kg		93	70 - 130	2	20
o-Xylene	ND		0.955	0.886		mg/Kg		93	70 - 130	3	20
Toluene	ND		0.955	0.871		mg/Kg		90	70 - 130	2	20
Xylenes, Total	ND		2.87	2.69		mg/Kg		93	70 - 130	2	20

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

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

Lab Sample ID: 885-3429-2 MSD
Matrix: Solid
Analysis Batch: 4036

Client Sample ID: BES24-16 2ft
Prep Type: Total/NA
Prep Batch: 3900

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*95*		*39 - 146*

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

Lab Sample ID: MB 885-3969/1-A
Matrix: Solid
Analysis Batch: 4095

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3969

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		04/26/24 13:39	04/29/24 17:38	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		04/26/24 13:39	04/29/24 17:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*82*		*62 - 134*	*04/26/24 13:39*	*04/29/24 17:38*	*1*

Lab Sample ID: LCS 885-3969/2-A
Matrix: Solid
Analysis Batch: 4095

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3969

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	47.6		mg/Kg		95	60 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*79*		*62 - 134*

Lab Sample ID: 885-3429-3 MS
Matrix: Solid
Analysis Batch: 4095

Client Sample ID: BES24-17 2ft
Prep Type: Total/NA
Prep Batch: 3969

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND	F2	49.3	56.7		mg/Kg		115	44 - 136		

Surrogate	MS %Recovery	MS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*117*		*62 - 134*

Lab Sample ID: 885-3429-3 MSD
Matrix: Solid
Analysis Batch: 4095

Client Sample ID: BES24-17 2ft
Prep Type: Total/NA
Prep Batch: 3969

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	F2	44.2	40.5	F2	mg/Kg		92	44 - 136	33	32

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Di-n-octyl phthalate (Surr)	*84*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-79603/1-A
Matrix: Solid
Analysis Batch: 79670

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		5.0		mg/Kg			04/30/24 13:43	1

Lab Sample ID: LCS 880-79603/2-A
Matrix: Solid
Analysis Batch: 79670

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	250		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-79603/3-A
Matrix: Solid
Analysis Batch: 79670

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	250		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

GC VOA

Prep Batch: 3900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3429-1	BES24-07 2.5ft	Total/NA	Solid	5030C	
885-3429-2	BES24-16 2ft	Total/NA	Solid	5030C	
885-3429-3	BES24-17 2ft	Total/NA	Solid	5030C	
MB 885-3900/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-3900/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-3900/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-3429-1 MS	BES24-07 2.5ft	Total/NA	Solid	5030C	
885-3429-1 MSD	BES24-07 2.5ft	Total/NA	Solid	5030C	
885-3429-2 MS	BES24-16 2ft	Total/NA	Solid	5030C	
885-3429-2 MSD	BES24-16 2ft	Total/NA	Solid	5030C	

Analysis Batch: 4035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3429-1	BES24-07 2.5ft	Total/NA	Solid	8015D	3900
885-3429-2	BES24-16 2ft	Total/NA	Solid	8015D	3900
885-3429-3	BES24-17 2ft	Total/NA	Solid	8015D	3900
MB 885-3900/1-A	Method Blank	Total/NA	Solid	8015D	3900
LCS 885-3900/2-A	Lab Control Sample	Total/NA	Solid	8015D	3900
885-3429-1 MS	BES24-07 2.5ft	Total/NA	Solid	8015D	3900
885-3429-1 MSD	BES24-07 2.5ft	Total/NA	Solid	8015D	3900

Analysis Batch: 4036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3429-1	BES24-07 2.5ft	Total/NA	Solid	8021B	3900
885-3429-2	BES24-16 2ft	Total/NA	Solid	8021B	3900
885-3429-3	BES24-17 2ft	Total/NA	Solid	8021B	3900
MB 885-3900/1-A	Method Blank	Total/NA	Solid	8021B	3900
LCS 885-3900/3-A	Lab Control Sample	Total/NA	Solid	8021B	3900
885-3429-2 MS	BES24-16 2ft	Total/NA	Solid	8021B	3900
885-3429-2 MSD	BES24-16 2ft	Total/NA	Solid	8021B	3900

GC Semi VOA

Prep Batch: 3969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3429-1	BES24-07 2.5ft	Total/NA	Solid	SHAKE	
885-3429-2	BES24-16 2ft	Total/NA	Solid	SHAKE	
885-3429-3	BES24-17 2ft	Total/NA	Solid	SHAKE	
MB 885-3969/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-3969/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-3429-3 MS	BES24-17 2ft	Total/NA	Solid	SHAKE	
885-3429-3 MSD	BES24-17 2ft	Total/NA	Solid	SHAKE	

Analysis Batch: 4095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3429-1	BES24-07 2.5ft	Total/NA	Solid	8015D	3969
885-3429-2	BES24-16 2ft	Total/NA	Solid	8015D	3969
885-3429-3	BES24-17 2ft	Total/NA	Solid	8015D	3969
MB 885-3969/1-A	Method Blank	Total/NA	Solid	8015D	3969
LCS 885-3969/2-A	Lab Control Sample	Total/NA	Solid	8015D	3969
885-3429-3 MS	BES24-17 2ft	Total/NA	Solid	8015D	3969

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

GC Semi VOA (Continued)

Analysis Batch: 4095 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3429-3 MSD	BES24-17 2ft	Total/NA	Solid	8015D	3969

HPLC/IC

Leach Batch: 79603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3429-1	BES24-07 2.5ft	Soluble	Solid	DI Leach	
885-3429-2	BES24-16 2ft	Soluble	Solid	DI Leach	
885-3429-3	BES24-17 2ft	Soluble	Solid	DI Leach	
MB 880-79603/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-79603/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-79603/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 79670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3429-1	BES24-07 2.5ft	Soluble	Solid	300.0	79603
885-3429-2	BES24-16 2ft	Soluble	Solid	300.0	79603
885-3429-3	BES24-17 2ft	Soluble	Solid	300.0	79603
MB 880-79603/1-A	Method Blank	Soluble	Solid	300.0	79603
LCS 880-79603/2-A	Lab Control Sample	Soluble	Solid	300.0	79603
LCSD 880-79603/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	79603

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

Client Sample ID: BES24-07 2.5ft

Lab Sample ID: 885-3429-1
Matrix: Solid
Date Collected: 04/23/24 14:15
Date Received: 04/25/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			3900	JR	EET ALB	04/25/24 14:06
Total/NA	Analysis	8015D		1	4035	JP	EET ALB	04/26/24 23:53
Total/NA	Prep	5030C			3900	JR	EET ALB	04/25/24 14:06
Total/NA	Analysis	8021B		1	4036	JP	EET ALB	04/26/24 23:53
Total/NA	Prep	SHAKE			3969	DH	EET ALB	04/26/24 13:39
Total/NA	Analysis	8015D		1	4095	JU	EET ALB	04/29/24 21:22
Soluble	Leach	DI Leach			79603	SA	EET MID	04/30/24 07:50
Soluble	Analysis	300.0		5	79670	SMC	EET MID	04/30/24 15:09

Client Sample ID: BES24-16 2ft

Lab Sample ID: 885-3429-2
Matrix: Solid
Date Collected: 04/23/24 14:45
Date Received: 04/25/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			3900	JR	EET ALB	04/25/24 14:06
Total/NA	Analysis	8015D		1	4035	JP	EET ALB	04/27/24 01:04
Total/NA	Prep	5030C			3900	JR	EET ALB	04/25/24 14:06
Total/NA	Analysis	8021B		1	4036	JP	EET ALB	04/27/24 01:04
Total/NA	Prep	SHAKE			3969	DH	EET ALB	04/26/24 13:39
Total/NA	Analysis	8015D		1	4095	JU	EET ALB	04/29/24 21:33
Soluble	Leach	DI Leach			79603	SA	EET MID	04/30/24 07:50
Soluble	Analysis	300.0		5	79670	SMC	EET MID	04/30/24 15:16

Client Sample ID: BES24-17 2ft

Lab Sample ID: 885-3429-3
Matrix: Solid
Date Collected: 04/23/24 12:30
Date Received: 04/25/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			3900	JR	EET ALB	04/25/24 14:06
Total/NA	Analysis	8015D		1	4035	JP	EET ALB	04/27/24 02:14
Total/NA	Prep	5030C			3900	JR	EET ALB	04/25/24 14:06
Total/NA	Analysis	8021B		1	4036	JP	EET ALB	04/27/24 02:14
Total/NA	Prep	SHAKE			3969	DH	EET ALB	04/26/24 13:39
Total/NA	Analysis	8015D		1	4095	JU	EET ALB	04/29/24 21:44
Soluble	Leach	DI Leach			79603	SA	EET MID	04/30/24 07:50
Soluble	Analysis	300.0		1	79670	SMC	EET MID	04/30/24 15:22

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3429-1

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
8015D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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	02-26-25

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
8015D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

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		Solid	Chloride

Chain-of-Custody Record

Client Vertex (XTO)

Mailing Address On File

Phone # On File

email or Fax# Cdixon@vertex ca

QA/QC Package

☐ Standard ☐ Level 4 (Full Validation)

Accreditation ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time

☑ Standard ☒ Rush 5 Day

Project Name JRU DI 1

Project # 23-04616

Project Manager Chance Dixon

Sampler Wyatt Wadleigh

On Ice: ☒ Yes ☐ No marty

# of Coolers. 1

Cooler Temp(including CF): 1.2-0.2=1.0 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www hallenvironmental com

4901 Hawkins NE - Albuquerque, NM 87109

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

885-3429 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	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent
~~04/19/24~~ 4/23 per Client	14 15	Soil	BES24-07 2 5ft	1, 4oz jar		1	X	X					X			
~~04/19/24~~	14 45	Soil	BES24-16 2ft	1, 4oz jar		2	X	X					X			
~~04/19/24~~	12 30	Soil	BES24-17 2ft	1, 4oz jar		3	X	X					X			

XTO offer 1/25/24

Date	Time	Relinquished by	Received by	Via	Date	Time
4/24/24	935	Wyatt Wadleigh				
4/24/24	1900			courier	4/25/24	8:00

Remarks Please CC wwadleigh@vertex ca

Cost center Number 1082151001

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.

4/30/2024

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-3429-1

Login Number: 3429 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
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.	False	Collection date discrepancies.
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").	N/A	

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-3429-1

Login Number: 3429
List Number: 2
Creator: Vasquez, Julisa

List Source: Eurofins Midland
List Creation: 04/30/24 10:54 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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").	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/6/2024 11:22:40 AM

JOB DESCRIPTION

JRU DI 1

JOB NUMBER

885-3547-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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
5/6/2024 11:22:40 AM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: JRU DI 1

Laboratory Job ID: 885-3547-1

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3547-1

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: JRU DI 1

Job ID: 885-3547-1

Job ID: 885-3547-1 Eurofins Albuquerque

Job Narrative
885-3547-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 sample was received on 4/27/2024 7:35 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°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: JRU DI 1

Job ID: 885-3547-1

Client Sample ID: WES24-14 2ft
Date Collected: 04/24/24 10:00
Date Received: 04/27/24 07:35

Lab Sample ID: 885-3547-1
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		4.7		mg/Kg		04/29/24 13:29	04/30/24 22:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 244*	*04/29/24 13:29*	*04/30/24 22:17*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/29/24 13:29	04/30/24 22:17	1
Ethylbenzene	ND		0.047		mg/Kg		04/29/24 13:29	04/30/24 22:17	1
Toluene	ND		0.047		mg/Kg		04/29/24 13:29	04/30/24 22:17	1
Xylenes, Total	ND		0.095		mg/Kg		04/29/24 13:29	04/30/24 22:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)				*04/29/24 13:29*	*04/30/24 22:17*	*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		04/29/24 14:22	04/29/24 17:04	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		04/29/24 14:22	04/29/24 17:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*04/29/24 14:22*	*04/29/24 17:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**860**		60		mg/Kg		04/29/24 14:34	04/29/24 20:35	20

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3547-1

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

Lab Sample ID: MB 885-4053/1-A
Matrix: Solid
Analysis Batch: 4241

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4053

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		04/29/24 13:26	04/30/24 14:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*15 - 244*	*04/29/24 13:26*	*04/30/24 14:41*	*1*

Lab Sample ID: LCS 885-4053/3-A
Matrix: Solid
Analysis Batch: 4241

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	27.4		mg/Kg		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*223*		*15 - 244*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-4053/1-A
Matrix: Solid
Analysis Batch: 4242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4053

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/29/24 13:26	04/30/24 14:41	1
Ethylbenzene	ND		0.050		mg/Kg		04/29/24 13:26	04/30/24 14:41	1
Toluene	ND		0.050		mg/Kg		04/29/24 13:26	04/30/24 14:41	1
Xylenes, Total	ND		0.10		mg/Kg		04/29/24 13:26	04/30/24 14:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)				*04/29/24 13:26*	*04/30/24 14:41*	*1*

Lab Sample ID: LCS 885-4053/4-A
Matrix: Solid
Analysis Batch: 4242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.957		mg/Kg		96	70 - 130		
Ethylbenzene			1.00	0.954		mg/Kg		95	70 - 130		
m,p-Xylene			2.00	1.91		mg/Kg		95	70 - 130		
o-Xylene			1.00	0.958		mg/Kg		96	70 - 130		
Toluene			1.00	0.947		mg/Kg		95	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3547-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-4051/1-A
Matrix: Solid
Analysis Batch: 4079

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4051

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5		mg/Kg		04/29/24 13:18	04/29/24 16:52	1

Lab Sample ID: LCS 885-4051/2-A
Matrix: Solid
Analysis Batch: 4079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4051

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			15.0	14.7		mg/Kg		98	90 - 110		

Lab Sample ID: MRL 885-4079/10
Matrix: Solid
Analysis Batch: 4079

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	0.576		mg/L		115	50 - 150		

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3547-1

GC VOA

Prep Batch: 4053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3547-1	WES24-14 2ft	Total/NA	Solid	5030C	
MB 885-4053/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-4053/3-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-4053/4-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 4241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3547-1	WES24-14 2ft	Total/NA	Solid	8015D	4053
MB 885-4053/1-A	Method Blank	Total/NA	Solid	8015D	4053
LCS 885-4053/3-A	Lab Control Sample	Total/NA	Solid	8015D	4053

Analysis Batch: 4242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3547-1	WES24-14 2ft	Total/NA	Solid	8021B	4053
MB 885-4053/1-A	Method Blank	Total/NA	Solid	8021B	4053
LCS 885-4053/4-A	Lab Control Sample	Total/NA	Solid	8021B	4053

GC Semi VOA

Prep Batch: 4023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3547-1	WES24-14 2ft	Total/NA	Solid	SHAKE	

Analysis Batch: 4042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3547-1	WES24-14 2ft	Total/NA	Solid	8015D	4023

HPLC/IC

Prep Batch: 4051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3547-1	WES24-14 2ft	Total/NA	Solid	300_Prep	
MB 885-4051/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-4051/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 4079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3547-1	WES24-14 2ft	Total/NA	Solid	300.0	4051
MB 885-4051/1-A	Method Blank	Total/NA	Solid	300.0	4051
LCS 885-4051/2-A	Lab Control Sample	Total/NA	Solid	300.0	4051
MRL 885-4079/10	Lab Control Sample	Total/NA	Solid	300.0	

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3547-1

Client Sample ID: WES24-14 2ft

Date Collected: 04/24/24 10:00
Date Received: 04/27/24 07:35

Lab Sample ID: 885-3547-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4053	JR	EET ALB	04/29/24 13:29
Total/NA	Analysis	8015D		1	4241	RA	EET ALB	04/30/24 22:17
Total/NA	Prep	5030C			4053	JR	EET ALB	04/29/24 13:29
Total/NA	Analysis	8021B		1	4242	RA	EET ALB	04/30/24 22:17
Total/NA	Prep	SHAKE			4023	JU	EET ALB	04/29/24 14:22
Total/NA	Analysis	8015D		1	4042	JU	EET ALB	04/29/24 17:04
Total/NA	Prep	300_Prep			4051	KB	EET ALB	04/29/24 14:34
Total/NA	Analysis	300.0		20	4079	RC	EET ALB	04/29/24 20:35

Laboratory References:

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: JRU DI 1

Job ID: 885-3547-1

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	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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	02-26-25

Chain-of-Custody Record

Client: Vertex (XTO)

Mailing Address: On File

Phone #: On File

email or Fax#: Cdixon@vertex.ca

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☑ Rush 5 Day

Project Name: JRU DI 1

Project #: 23-04616

Project Manager: Chance Dixon

Sampler: Wyatt Wadleigh

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 5.5+0.1=5.6

HALL ENVIRONMENTAL ANALYSIS LABO

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87

Tel: 505-345-3975 Fax: 505-345-410

885-3547 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	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
04/24/24	10 00	Soil	WES24-14 2 ft	1, 4oz jar			X	X					X			

Date	Time	Relinquished by	Received by	Via	Date	Time
		Wyatt Wadleigh			4/24/24	900
4/24/24	1900			Courier	4/27/24	7:35

Remarks: Please CC wwadleigh@vertex.ca
Cost center Number: 1082151001

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: 885-3547-1

Login Number: 3547 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Rojas, Juan

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
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").	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/24/2024 11:10:13 AM

JOB DESCRIPTION

JRU DI 1A CTB

JOB NUMBER

885-4276-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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
5/24/2024 11:10:13 AM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: JRU DI 1A CTB

Laboratory Job ID: 885-4276-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-4276-1
Project/Site: JRU DI 1A CTB

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: JRU DI 1A CTB

Job ID: 885-4276-1

Job ID: 885-4276-1 Eurofins Albuquerque

Job Narrative
885-4276-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 5/10/2024 9:10 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 0.4°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: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: BES24-07 3'

Date Collected: 05/08/24 11:05
Date Received: 05/10/24 09:10

Lab Sample ID: 885-4276-1

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		3.8		mg/Kg		05/10/24 15:30	05/11/24 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*05/10/24 15:30*	*05/11/24 16:09*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		05/10/24 15:30	05/11/24 16:09	1
Ethylbenzene	ND		0.038		mg/Kg		05/10/24 15:30	05/11/24 16:09	1
Toluene	ND		0.038		mg/Kg		05/10/24 15:30	05/11/24 16:09	1
Xylenes, Total	ND		0.075		mg/Kg		05/10/24 15:30	05/11/24 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*05/10/24 15:30*	*05/11/24 16:09*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.7		mg/Kg		05/10/24 12:47	05/10/24 18:30	1
Motor Oil Range Organics [C28-C40]	ND		43		mg/Kg		05/10/24 12:47	05/10/24 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*87*		*62 - 134*	*05/10/24 12:47*	*05/10/24 18:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		60		mg/Kg		05/10/24 12:53	05/11/24 16:02	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: BES24-16 2.5'

Date Collected: 05/08/24 14:00
Date Received: 05/10/24 09:10

Lab Sample ID: 885-4276-2

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		3.4		mg/Kg		05/10/24 15:30	05/11/24 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*05/10/24 15:30*	*05/11/24 16:33*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		05/10/24 15:30	05/11/24 16:33	1
Ethylbenzene	ND		0.034		mg/Kg		05/10/24 15:30	05/11/24 16:33	1
Toluene	ND		0.034		mg/Kg		05/10/24 15:30	05/11/24 16:33	1
Xylenes, Total	ND		0.068		mg/Kg		05/10/24 15:30	05/11/24 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*05/10/24 15:30*	*05/11/24 16:33*	*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		05/10/24 12:47	05/10/24 18:43	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		05/10/24 12:47	05/10/24 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*	*05/10/24 12:47*	*05/10/24 18:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/10/24 12:53	05/11/24 16:17	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: BES24-21 2.5'

Date Collected: 05/08/24 14:10
Date Received: 05/10/24 09:10

Lab Sample ID: 885-4276-3

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		3.7		mg/Kg		05/10/24 15:30	05/11/24 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*05/10/24 15:30*	*05/11/24 16:56*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		05/10/24 15:30	05/11/24 16:56	1
Ethylbenzene	ND		0.037		mg/Kg		05/10/24 15:30	05/11/24 16:56	1
Toluene	ND		0.037		mg/Kg		05/10/24 15:30	05/11/24 16:56	1
Xylenes, Total	ND		0.075		mg/Kg		05/10/24 15:30	05/11/24 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*05/10/24 15:30*	*05/11/24 16:56*	*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		05/10/24 12:47	05/10/24 18:55	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/10/24 12:47	05/10/24 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*92*		*62 - 134*	*05/10/24 12:47*	*05/10/24 18:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/10/24 12:53	05/11/24 16:32	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: WES24-15 0-2'

Date Collected: 05/08/24 10:15
Date Received: 05/10/24 09:10

Lab Sample ID: 885-4276-4

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]	ND		3.5		mg/Kg		05/10/24 15:30	05/11/24 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*05/10/24 15:30*	*05/11/24 17:19*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		05/10/24 15:30	05/11/24 17:19	1
Ethylbenzene	ND		0.035		mg/Kg		05/10/24 15:30	05/11/24 17:19	1
Toluene	ND		0.035		mg/Kg		05/10/24 15:30	05/11/24 17:19	1
Xylenes, Total	ND		0.071		mg/Kg		05/10/24 15:30	05/11/24 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*05/10/24 15:30*	*05/11/24 17:19*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		05/10/24 12:47	05/10/24 19:08	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/10/24 12:47	05/10/24 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*89*		*62 - 134*	*05/10/24 12:47*	*05/10/24 19:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/10/24 12:53	05/11/24 16:47	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: WES24-16 0-0.5'

Date Collected: 05/08/24 10:25
Date Received: 05/10/24 09:10

Lab Sample ID: 885-4276-5

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]	ND		3.6		mg/Kg		05/10/24 15:30	05/11/24 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*05/10/24 15:30*	*05/11/24 17:43*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		05/10/24 15:30	05/11/24 17:43	1
Ethylbenzene	ND		0.036		mg/Kg		05/10/24 15:30	05/11/24 17:43	1
Toluene	ND		0.036		mg/Kg		05/10/24 15:30	05/11/24 17:43	1
Xylenes, Total	ND		0.072		mg/Kg		05/10/24 15:30	05/11/24 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*05/10/24 15:30*	*05/11/24 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		9.5		mg/Kg		05/10/24 12:47	05/10/24 19:20	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/10/24 12:47	05/10/24 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*	*05/10/24 12:47*	*05/10/24 19:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/10/24 12:53	05/11/24 17:33	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: WES24-17 0-3'

Date Collected: 05/08/24 10:35
Date Received: 05/10/24 09:10

Lab Sample ID: 885-4276-6

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		3.8		mg/Kg		05/10/24 15:30	05/11/24 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*05/10/24 15:30*	*05/11/24 18:06*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.019		mg/Kg		05/10/24 15:30	05/11/24 18:06	1
Ethylbenzene	ND		0.038		mg/Kg		05/10/24 15:30	05/11/24 18:06	1
Toluene	ND		0.038		mg/Kg		05/10/24 15:30	05/11/24 18:06	1
Xylenes, Total	ND		0.075		mg/Kg		05/10/24 15:30	05/11/24 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*05/10/24 15:30*	*05/11/24 18:06*	*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		9.2		mg/Kg		05/10/24 12:47	05/10/24 19:32	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		05/10/24 12:47	05/10/24 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*	*05/10/24 12:47*	*05/10/24 19:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/10/24 12:53	05/11/24 17:48	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: WES24-18 0-2.5'

Date Collected: 05/08/24 14:20
Date Received: 05/10/24 09:10

Lab Sample ID: 885-4276-7

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		3.5		mg/Kg		05/10/24 15:30	05/11/24 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*35 - 166*	*05/10/24 15:30*	*05/11/24 18:30*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		05/10/24 15:30	05/11/24 18:30	1
Ethylbenzene	ND		0.035		mg/Kg		05/10/24 15:30	05/11/24 18:30	1
Toluene	ND		0.035		mg/Kg		05/10/24 15:30	05/11/24 18:30	1
Xylenes, Total	ND		0.069		mg/Kg		05/10/24 15:30	05/11/24 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*05/10/24 15:30*	*05/11/24 18:30*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		05/10/24 12:47	05/10/24 19:44	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/10/24 12:47	05/10/24 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*72*		*62 - 134*	*05/10/24 12:47*	*05/10/24 19:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/10/24 12:53	05/11/24 18:03	20

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

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

Lab Sample ID: MB 885-4780/1-A
Matrix: Solid
Analysis Batch: 4841

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4780

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/10/24 15:29	05/11/24 09:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*05/10/24 15:29*	*05/11/24 09:06*	*1*

Lab Sample ID: LCS 885-4780/2-A
Matrix: Solid
Analysis Batch: 4841

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4780

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.1		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*202*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-4780/1-A
Matrix: Solid
Analysis Batch: 4843

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4780

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/10/24 15:29	05/11/24 09:06	1
Ethylbenzene	ND		0.050		mg/Kg		05/10/24 15:29	05/11/24 09:06	1
Toluene	ND		0.050		mg/Kg		05/10/24 15:29	05/11/24 09:06	1
Xylenes, Total	ND		0.10		mg/Kg		05/10/24 15:29	05/11/24 09:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*05/10/24 15:29*	*05/11/24 09:06*	*1*

Lab Sample ID: LCS 885-4780/3-A
Matrix: Solid
Analysis Batch: 4843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4780

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.931		mg/Kg		93	70 - 130		
Ethylbenzene			1.00	0.885		mg/Kg		88	70 - 130		
m,p-Xylene			2.00	1.78		mg/Kg		89	70 - 130		
o-Xylene			1.00	0.883		mg/Kg		88	70 - 130		
Toluene			1.00	0.880		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

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

Lab Sample ID: MB 885-4753/1-A
Matrix: Solid
Analysis Batch: 4758

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4753

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		05/10/24 12:47	05/10/24 18:06	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/10/24 12:47	05/10/24 18:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*05/10/24 12:47*	*05/10/24 18:06*	*1*

Lab Sample ID: LCS 885-4753/2-A
Matrix: Solid
Analysis Batch: 4758

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4753

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	44.0		mg/Kg		88	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*123*		*62 - 134*

Lab Sample ID: 885-4276-7 MS
Matrix: Solid
Analysis Batch: 4758

Client Sample ID: WES24-18 0-2.5'
Prep Type: Total/NA
Prep Batch: 4753

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		45.0	38.4		mg/Kg		85	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*

Lab Sample ID: 885-4276-7 MSD
Matrix: Solid
Analysis Batch: 4758

Client Sample ID: WES24-18 0-2.5'
Prep Type: Total/NA
Prep Batch: 4753

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		46.9	42.0		mg/Kg		90	44 - 136	9	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-4756/1-A
Matrix: Solid
Analysis Batch: 4805

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4756

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		05/10/24 12:53	05/11/24 11:12	1

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-4756/2-A
Matrix: Solid
Analysis Batch: 4805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4756

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.2		mg/Kg		94	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

GC VOA

Prep Batch: 4780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4276-1	BES24-07 3'	Total/NA	Solid	5030C	
885-4276-2	BES24-16 2.5'	Total/NA	Solid	5030C	
885-4276-3	BES24-21 2.5'	Total/NA	Solid	5030C	
885-4276-4	WES24-15 0-2'	Total/NA	Solid	5030C	
885-4276-5	WES24-16 0-0.5'	Total/NA	Solid	5030C	
885-4276-6	WES24-17 0-3'	Total/NA	Solid	5030C	
885-4276-7	WES24-18 0-2.5'	Total/NA	Solid	5030C	
MB 885-4780/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-4780/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-4780/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 4841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4276-1	BES24-07 3'	Total/NA	Solid	8015D	4780
885-4276-2	BES24-16 2.5'	Total/NA	Solid	8015D	4780
885-4276-3	BES24-21 2.5'	Total/NA	Solid	8015D	4780
885-4276-4	WES24-15 0-2'	Total/NA	Solid	8015D	4780
885-4276-5	WES24-16 0-0.5'	Total/NA	Solid	8015D	4780
885-4276-6	WES24-17 0-3'	Total/NA	Solid	8015D	4780
885-4276-7	WES24-18 0-2.5'	Total/NA	Solid	8015D	4780
MB 885-4780/1-A	Method Blank	Total/NA	Solid	8015D	4780
LCS 885-4780/2-A	Lab Control Sample	Total/NA	Solid	8015D	4780

Analysis Batch: 4843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4276-1	BES24-07 3'	Total/NA	Solid	8021B	4780
885-4276-2	BES24-16 2.5'	Total/NA	Solid	8021B	4780
885-4276-3	BES24-21 2.5'	Total/NA	Solid	8021B	4780
885-4276-4	WES24-15 0-2'	Total/NA	Solid	8021B	4780
885-4276-5	WES24-16 0-0.5'	Total/NA	Solid	8021B	4780
885-4276-6	WES24-17 0-3'	Total/NA	Solid	8021B	4780
885-4276-7	WES24-18 0-2.5'	Total/NA	Solid	8021B	4780
MB 885-4780/1-A	Method Blank	Total/NA	Solid	8021B	4780
LCS 885-4780/3-A	Lab Control Sample	Total/NA	Solid	8021B	4780

GC Semi VOA

Prep Batch: 4753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4276-1	BES24-07 3'	Total/NA	Solid	SHAKE	
885-4276-2	BES24-16 2.5'	Total/NA	Solid	SHAKE	
885-4276-3	BES24-21 2.5'	Total/NA	Solid	SHAKE	
885-4276-4	WES24-15 0-2'	Total/NA	Solid	SHAKE	
885-4276-5	WES24-16 0-0.5'	Total/NA	Solid	SHAKE	
885-4276-6	WES24-17 0-3'	Total/NA	Solid	SHAKE	
885-4276-7	WES24-18 0-2.5'	Total/NA	Solid	SHAKE	
MB 885-4753/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-4753/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-4276-7 MS	WES24-18 0-2.5'	Total/NA	Solid	SHAKE	
885-4276-7 MSD	WES24-18 0-2.5'	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

GC Semi VOA

Analysis Batch: 4758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4276-1	BES24-07 3'	Total/NA	Solid	8015D	4753
885-4276-2	BES24-16 2.5'	Total/NA	Solid	8015D	4753
885-4276-3	BES24-21 2.5'	Total/NA	Solid	8015D	4753
885-4276-4	WES24-15 0-2'	Total/NA	Solid	8015D	4753
885-4276-5	WES24-16 0-0.5'	Total/NA	Solid	8015D	4753
885-4276-6	WES24-17 0-3'	Total/NA	Solid	8015D	4753
885-4276-7	WES24-18 0-2.5'	Total/NA	Solid	8015D	4753
MB 885-4753/1-A	Method Blank	Total/NA	Solid	8015D	4753
LCS 885-4753/2-A	Lab Control Sample	Total/NA	Solid	8015D	4753
885-4276-7 MS	WES24-18 0-2.5'	Total/NA	Solid	8015D	4753
885-4276-7 MSD	WES24-18 0-2.5'	Total/NA	Solid	8015D	4753

HPLC/IC

Prep Batch: 4756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4276-1	BES24-07 3'	Total/NA	Solid	300_Prep	
885-4276-2	BES24-16 2.5'	Total/NA	Solid	300_Prep	
885-4276-3	BES24-21 2.5'	Total/NA	Solid	300_Prep	
885-4276-4	WES24-15 0-2'	Total/NA	Solid	300_Prep	
885-4276-5	WES24-16 0-0.5'	Total/NA	Solid	300_Prep	
885-4276-6	WES24-17 0-3'	Total/NA	Solid	300_Prep	
885-4276-7	WES24-18 0-2.5'	Total/NA	Solid	300_Prep	
MB 885-4756/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-4756/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 4805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4276-1	BES24-07 3'	Total/NA	Solid	300.0	4756
885-4276-2	BES24-16 2.5'	Total/NA	Solid	300.0	4756
885-4276-3	BES24-21 2.5'	Total/NA	Solid	300.0	4756
885-4276-4	WES24-15 0-2'	Total/NA	Solid	300.0	4756
885-4276-5	WES24-16 0-0.5'	Total/NA	Solid	300.0	4756
885-4276-6	WES24-17 0-3'	Total/NA	Solid	300.0	4756
885-4276-7	WES24-18 0-2.5'	Total/NA	Solid	300.0	4756
MB 885-4756/1-A	Method Blank	Total/NA	Solid	300.0	4756
LCS 885-4756/2-A	Lab Control Sample	Total/NA	Solid	300.0	4756

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: BES24-07 3'

Lab Sample ID: 885-4276-1
Matrix: Solid
Date Collected: 05/08/24 11:05
Date Received: 05/10/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/11/24 16:09
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/11/24 16:09
Total/NA	Prep	SHAKE			4753	JU	EET ALB	05/10/24 12:47
Total/NA	Analysis	8015D		1	4758	JU	EET ALB	05/10/24 18:30
Total/NA	Prep	300_Prep			4756	JT	EET ALB	05/10/24 12:53
Total/NA	Analysis	300.0		20	4805	JT	EET ALB	05/11/24 16:02

Client Sample ID: BES24-16 2.5'

Lab Sample ID: 885-4276-2
Matrix: Solid
Date Collected: 05/08/24 14:00
Date Received: 05/10/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/11/24 16:33
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/11/24 16:33
Total/NA	Prep	SHAKE			4753	JU	EET ALB	05/10/24 12:47
Total/NA	Analysis	8015D		1	4758	JU	EET ALB	05/10/24 18:43
Total/NA	Prep	300_Prep			4756	JT	EET ALB	05/10/24 12:53
Total/NA	Analysis	300.0		20	4805	JT	EET ALB	05/11/24 16:17

Client Sample ID: BES24-21 2.5'

Lab Sample ID: 885-4276-3
Matrix: Solid
Date Collected: 05/08/24 14:10
Date Received: 05/10/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/11/24 16:56
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/11/24 16:56
Total/NA	Prep	SHAKE			4753	JU	EET ALB	05/10/24 12:47
Total/NA	Analysis	8015D		1	4758	JU	EET ALB	05/10/24 18:55
Total/NA	Prep	300_Prep			4756	JT	EET ALB	05/10/24 12:53
Total/NA	Analysis	300.0		20	4805	JT	EET ALB	05/11/24 16:32

Client Sample ID: WES24-15 0-2'

Lab Sample ID: 885-4276-4
Matrix: Solid
Date Collected: 05/08/24 10:15
Date Received: 05/10/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/11/24 17:19

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: WES24-15 0-2'

Lab Sample ID: 885-4276-4
Matrix: Solid
Date Collected: 05/08/24 10:15
Date Received: 05/10/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/11/24 17:19
Total/NA	Prep	SHAKE			4753	JU	EET ALB	05/10/24 12:47
Total/NA	Analysis	8015D		1	4758	JU	EET ALB	05/10/24 19:08
Total/NA	Prep	300_Prep			4756	JT	EET ALB	05/10/24 12:53
Total/NA	Analysis	300.0		20	4805	JT	EET ALB	05/11/24 16:47

Client Sample ID: WES24-16 0-0.5'

Lab Sample ID: 885-4276-5
Matrix: Solid
Date Collected: 05/08/24 10:25
Date Received: 05/10/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/11/24 17:43
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/11/24 17:43
Total/NA	Prep	SHAKE			4753	JU	EET ALB	05/10/24 12:47
Total/NA	Analysis	8015D		1	4758	JU	EET ALB	05/10/24 19:20
Total/NA	Prep	300_Prep			4756	JT	EET ALB	05/10/24 12:53
Total/NA	Analysis	300.0		20	4805	JT	EET ALB	05/11/24 17:33

Client Sample ID: WES24-17 0-3'

Lab Sample ID: 885-4276-6
Matrix: Solid
Date Collected: 05/08/24 10:35
Date Received: 05/10/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/11/24 18:06
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/11/24 18:06
Total/NA	Prep	SHAKE			4753	JU	EET ALB	05/10/24 12:47
Total/NA	Analysis	8015D		1	4758	JU	EET ALB	05/10/24 19:32
Total/NA	Prep	300_Prep			4756	JT	EET ALB	05/10/24 12:53
Total/NA	Analysis	300.0		20	4805	JT	EET ALB	05/11/24 17:48

Client Sample ID: WES24-18 0-2.5'

Lab Sample ID: 885-4276-7
Matrix: Solid
Date Collected: 05/08/24 14:20
Date Received: 05/10/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/11/24 18:30
Total/NA	Prep	5030C			4780	JP	EET ALB	05/10/24 15:30
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/11/24 18:30

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-4276-1

Client Sample ID: WES24-18 0-2.5'

Date Collected: 05/08/24 14:20
Date Received: 05/10/24 09:10

Lab Sample ID: 885-4276-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			4753	JU	EET ALB	05/10/24 12:47
Total/NA	Analysis	8015D		1	4758	JU	EET ALB	05/10/24 19:44
Total/NA	Prep	300_Prep			4756	JT	EET ALB	05/10/24 12:53
Total/NA	Analysis	300.0		20	4805	JT	EET ALB	05/11/24 18:03

Laboratory References:

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

Accreditation/Certification Summary

Client: Vertex
Job ID: 885-4276-1
Project/Site: JRU DI 1A CTB

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	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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	02-26-25

Chain-of-Custody Record

Client: **Vertex (Bill to XTO Energy, Inc)**

Mailing Address: On file

Phone #:

email or Fax#:

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

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

Turn-Around Time:
☐ Standard X **Rush 24-hour**

Project Name:
JRU DI 1A CTB

Project #:
23E-04616-02

Project Manager:
Chance Dixon
CDixon@vertex.ca

Sampler: L. Pullman
On Ice: ☒ Yes ☐ No
# of Coolers: 1 Yogi
Cooler Temp(including CF): 0.4 + 0.0 = 0.4°c

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 8
Tel. 505-345-3975 Fax 505-345-410

885-4276 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)
05.08.24	11:05	Soil	BES24-07 3'	1, 4oz jar			X	X					X			
05.08.24	14:00	Soil	BES24-16 2.5'	1, 4oz jar			X	X					X			
05.08.24	14:10	Soil	BES24-21 2.5'	1, 4oz jar			X	X					X			
05.08.24	10:15	Soil	WES24-15 0-2'	1, 4oz jar			X	X					X			
05.08.24	10:25	Soil	WES24-16 0-2'	1, 4oz jar			X	X					X			
05.08.24	10:35	Soil	WES24-17 0-3'	1, 4oz jar			X	X					X			
05.08.24	14:20	Soil	WES24-18 0-2.5'	1, 4oz jar			X	X					X			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					5/9/24	1030
5/9/24	1900			Courier	5/10/24	9:10

Remarks:
Direct Bill to XTO Energy, Inc.
nAPP2331041267
Cost Center # 1082151001
CC.Chance Dixon (CDixon@vertex.ca) for Final Report.

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

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-4276-1

Login Number: 4276 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Alderette, Joseph

Question	Answer	Comment
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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Sally Carttar
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 6/7/2024 4:00:24 PM

JOB DESCRIPTION

JRU DI 1A CTB

JOB NUMBER

885-5373-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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
6/7/2024 4:00:24 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: JRU DI 1A CTB

Laboratory Job ID: 885-5373-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-5373-1
Project/Site: JRU DI 1A CTB

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: JRU DI 1A CTB

Job ID: 885-5373-1

Job ID: 885-5373-1 Eurofins Albuquerque

Job Narrative
885-5373-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 5/31/2024 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 3.6°C.

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: JRU DI 1A CTB

Job ID: 885-5373-1

Client Sample ID: WES24-25 0-0.5'

Date Collected: 05/28/24 12:15
Date Received: 05/31/24 07:45

Lab Sample ID: 885-5373-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		05/31/24 10:35	06/06/24 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*05/31/24 10:35*	*06/06/24 15:48*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/31/24 10:35	06/06/24 15:48	1
Ethylbenzene	ND		0.047		mg/Kg		05/31/24 10:35	06/06/24 15:48	1
Toluene	ND		0.047		mg/Kg		05/31/24 10:35	06/06/24 15:48	1
Xylenes, Total	ND		0.094		mg/Kg		05/31/24 10:35	06/06/24 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*05/31/24 10:35*	*06/06/24 15:48*	*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		05/31/24 15:14	06/04/24 15:38	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/31/24 15:14	06/04/24 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*05/31/24 15:14*	*06/04/24 15:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		59		mg/Kg		06/01/24 06:49	06/01/24 14:20	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-5373-1

Client Sample ID: BES24-20 2'
Date Collected: 05/28/24 13:30
Date Received: 05/31/24 07:45

Lab Sample ID: 885-5373-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		05/31/24 10:35	06/06/24 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*35 - 166*	*05/31/24 10:35*	*06/06/24 16:11*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		05/31/24 10:35	06/06/24 16:11	1
Ethylbenzene	ND		0.047		mg/Kg		05/31/24 10:35	06/06/24 16:11	1
Toluene	ND		0.047		mg/Kg		05/31/24 10:35	06/06/24 16:11	1
Xylenes, Total	ND		0.093		mg/Kg		05/31/24 10:35	06/06/24 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*05/31/24 10:35*	*06/06/24 16:11*	*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]	ND		8.7		mg/Kg		05/31/24 15:14	06/04/24 15:51	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		05/31/24 15:14	06/04/24 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*	*05/31/24 15:14*	*06/04/24 15:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		06/01/24 06:49	06/01/24 14:33	20

Client Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-5373-1

Client Sample ID: BES24-19 2'

Date Collected: 05/28/24 14:00
Date Received: 05/31/24 07:45

Lab Sample ID: 885-5373-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		05/31/24 10:35	06/06/24 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*05/31/24 10:35*	*06/06/24 16:35*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/31/24 10:35	06/06/24 16:35	1
Ethylbenzene	ND		0.048		mg/Kg		05/31/24 10:35	06/06/24 16:35	1
Toluene	ND		0.048		mg/Kg		05/31/24 10:35	06/06/24 16:35	1
Xylenes, Total	ND		0.097		mg/Kg		05/31/24 10:35	06/06/24 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*05/31/24 10:35*	*06/06/24 16:35*	*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]	ND		8.5		mg/Kg		05/31/24 15:14	06/04/24 16:03	1
Motor Oil Range Organics [C28-C40]	ND		43		mg/Kg		05/31/24 15:14	06/04/24 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*05/31/24 15:14*	*06/04/24 16:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		06/01/24 06:49	06/01/24 14:45	20

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-5373-1

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

Lab Sample ID: MB 885-5942/1-A
Matrix: Solid
Analysis Batch: 6304

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5942

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		05/31/24 10:35	06/06/24 15:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*05/31/24 10:35*	*06/06/24 15:00*	*1*

Lab Sample ID: LCS 885-5942/2-A
Matrix: Solid
Analysis Batch: 6304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5942

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			25.0	24.1		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*213*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-5942/1-A
Matrix: Solid
Analysis Batch: 6306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5942

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/31/24 10:35	06/06/24 15:00	1
Ethylbenzene	ND		0.050		mg/Kg		05/31/24 10:35	06/06/24 15:00	1
Toluene	ND		0.050		mg/Kg		05/31/24 10:35	06/06/24 15:00	1
Xylenes, Total	ND		0.10		mg/Kg		05/31/24 10:35	06/06/24 15:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*05/31/24 10:35*	*06/06/24 15:00*	*1*

Lab Sample ID: LCS 885-5942/3-A
Matrix: Solid
Analysis Batch: 6306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5942

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	0.897		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene			2.00	1.81		mg/Kg		91	70 - 130		
o-Xylene			1.00	0.887		mg/Kg		89	70 - 130		
Toluene			1.00	0.900		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-5373-1

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

Lab Sample ID: MB 885-5961/1-A
Matrix: Solid
Analysis Batch: 6126

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5961

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		05/31/24 15:13	06/04/24 11:16	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/31/24 15:13	06/04/24 11:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*121*		*62 - 134*	*05/31/24 15:13*	*06/04/24 11:16*	*1*

Lab Sample ID: LCS 885-5961/2-A
Matrix: Solid
Analysis Batch: 6126

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5961

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	44.9		mg/Kg		90	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*

Lab Sample ID: 885-5373-3 MS
Matrix: Solid
Analysis Batch: 6126

Client Sample ID: BES24-19 2'
Prep Type: Total/NA
Prep Batch: 5961

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		47.4	46.1		mg/Kg		97	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*

Lab Sample ID: 885-5373-3 MSD
Matrix: Solid
Analysis Batch: 6126

Client Sample ID: BES24-19 2'
Prep Type: Total/NA
Prep Batch: 5961

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		44.5	45.2		mg/Kg		102	44 - 136	2	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 885-5975/1-A
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5975

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		06/01/24 06:49	06/01/24 08:10	1

QC Sample Results

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-5373-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-5975/2-A
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5975

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	30.0	27.6		mg/Kg		92	90 - 110

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-5373-1

GC VOA

Prep Batch: 5942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5373-1	WES24-25 0-0.5'	Total/NA	Solid	5030C	
885-5373-2	BES24-20 2'	Total/NA	Solid	5030C	
885-5373-3	BES24-19 2'	Total/NA	Solid	5030C	
MB 885-5942/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-5942/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-5942/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 6304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5373-1	WES24-25 0-0.5'	Total/NA	Solid	8015M/D	5942
885-5373-2	BES24-20 2'	Total/NA	Solid	8015M/D	5942
885-5373-3	BES24-19 2'	Total/NA	Solid	8015M/D	5942
MB 885-5942/1-A	Method Blank	Total/NA	Solid	8015M/D	5942
LCS 885-5942/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5942

Analysis Batch: 6306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5373-1	WES24-25 0-0.5'	Total/NA	Solid	8021B	5942
885-5373-2	BES24-20 2'	Total/NA	Solid	8021B	5942
885-5373-3	BES24-19 2'	Total/NA	Solid	8021B	5942
MB 885-5942/1-A	Method Blank	Total/NA	Solid	8021B	5942
LCS 885-5942/3-A	Lab Control Sample	Total/NA	Solid	8021B	5942

GC Semi VOA

Prep Batch: 5961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5373-1	WES24-25 0-0.5'	Total/NA	Solid	SHAKE	
885-5373-2	BES24-20 2'	Total/NA	Solid	SHAKE	
885-5373-3	BES24-19 2'	Total/NA	Solid	SHAKE	
MB 885-5961/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5961/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-5373-3 MS	BES24-19 2'	Total/NA	Solid	SHAKE	
885-5373-3 MSD	BES24-19 2'	Total/NA	Solid	SHAKE	

Analysis Batch: 6126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5373-1	WES24-25 0-0.5'	Total/NA	Solid	8015M/D	5961
885-5373-2	BES24-20 2'	Total/NA	Solid	8015M/D	5961
885-5373-3	BES24-19 2'	Total/NA	Solid	8015M/D	5961
MB 885-5961/1-A	Method Blank	Total/NA	Solid	8015M/D	5961
LCS 885-5961/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5961
885-5373-3 MS	BES24-19 2'	Total/NA	Solid	8015M/D	5961
885-5373-3 MSD	BES24-19 2'	Total/NA	Solid	8015M/D	5961

HPLC/IC

Prep Batch: 5975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5373-1	WES24-25 0-0.5'	Total/NA	Solid	300_Prep	
885-5373-2	BES24-20 2'	Total/NA	Solid	300_Prep	
885-5373-3	BES24-19 2'	Total/NA	Solid	300_Prep	

QC Association Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-5373-1

HPLC/IC (Continued)

Prep Batch: 5975 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-5975/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-5975/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 5986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5373-1	WES24-25 0-0.5'	Total/NA	Solid	300.0	5975
885-5373-2	BES24-20 2'	Total/NA	Solid	300.0	5975
885-5373-3	BES24-19 2'	Total/NA	Solid	300.0	5975
MB 885-5975/1-A	Method Blank	Total/NA	Solid	300.0	5975
LCS 885-5975/2-A	Lab Control Sample	Total/NA	Solid	300.0	5975

Lab Chronicle

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-5373-1

Client Sample ID: WES24-25 0-0.5'

Lab Sample ID: 885-5373-1
Matrix: Solid
Date Collected: 05/28/24 12:15
Date Received: 05/31/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5942	AT	EET ALB	05/31/24 10:35
Total/NA	Analysis	8015M/D		1	6304	JP	EET ALB	06/06/24 15:48
Total/NA	Prep	5030C			5942	AT	EET ALB	05/31/24 10:35
Total/NA	Analysis	8021B		1	6306	JP	EET ALB	06/06/24 15:48
Total/NA	Prep	SHAKE			5961	DH	EET ALB	05/31/24 15:14
Total/NA	Analysis	8015M/D		1	6126	JU	EET ALB	06/04/24 15:38
Total/NA	Prep	300_Prep			5975	JT	EET ALB	06/01/24 06:49
Total/NA	Analysis	300.0		20	5986	JT	EET ALB	06/01/24 14:20

Client Sample ID: BES24-20 2'

Lab Sample ID: 885-5373-2
Matrix: Solid
Date Collected: 05/28/24 13:30
Date Received: 05/31/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5942	AT	EET ALB	05/31/24 10:35
Total/NA	Analysis	8015M/D		1	6304	JP	EET ALB	06/06/24 16:11
Total/NA	Prep	5030C			5942	AT	EET ALB	05/31/24 10:35
Total/NA	Analysis	8021B		1	6306	JP	EET ALB	06/06/24 16:11
Total/NA	Prep	SHAKE			5961	DH	EET ALB	05/31/24 15:14
Total/NA	Analysis	8015M/D		1	6126	JU	EET ALB	06/04/24 15:51
Total/NA	Prep	300_Prep			5975	JT	EET ALB	06/01/24 06:49
Total/NA	Analysis	300.0		20	5986	JT	EET ALB	06/01/24 14:33

Client Sample ID: BES24-19 2'

Lab Sample ID: 885-5373-3
Matrix: Solid
Date Collected: 05/28/24 14:00
Date Received: 05/31/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5942	AT	EET ALB	05/31/24 10:35
Total/NA	Analysis	8015M/D		1	6304	JP	EET ALB	06/06/24 16:35
Total/NA	Prep	5030C			5942	AT	EET ALB	05/31/24 10:35
Total/NA	Analysis	8021B		1	6306	JP	EET ALB	06/06/24 16:35
Total/NA	Prep	SHAKE			5961	DH	EET ALB	05/31/24 15:14
Total/NA	Analysis	8015M/D		1	6126	JU	EET ALB	06/04/24 16:03
Total/NA	Prep	300_Prep			5975	JT	EET ALB	06/01/24 06:49
Total/NA	Analysis	300.0		20	5986	JT	EET ALB	06/01/24 14:45

Laboratory References:

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: JRU DI 1A CTB

Job ID: 885-5373-1

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 (GRO)-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	02-26-25

Chain-of-Custody Record

Client: Vertex (XTO)

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: JRU DI 1A CTB

Project #: 23E-04616

Project Manager: C. Dixon

Sampler: Amohl

On Ice: ☑ Yes ☐ No

# of Coolers: 1 4oz

Cooler Temp(including CF): 3.6-0=3.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
885-5373 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)
5/28/24	12:15	soil	BES24-25 0-0.5"	4oz jar	ice	1	X	X					X			
↓	13:30	↓	BES24-20 2'	↓	↓	2	↓	↓					↓			
↓	14:00	↓	BES24-19 2'	↓	↓	3	↓	↓					↓			

Date	Time	Relinquished by	Received by	Via	Date	Time
					5/30/24	1015
5/30/24	1900			courier	5/31/24	7:45

Remarks: please send results to: cdixon@vertexresources.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: 885-5373-1

Login Number: 5373 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

Question	Answer	Comment
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	

From: Chance Dixon
To: Wells, Shelly, EMNRD
Subject: [EXTERNAL] RE: NAPP2331041267 JAMES RANCH UNIT DI 1A TANK BATTERY
Date: Tuesday, July 30, 2024 3:46:01 PM

Shelly,

My apologies for these errors. This was a complex excavation with lines everywhere underneath so it that took a lot of data organizing. It appears that I did not have it organized quite enough. As for BES24-19 and BES24-20, these samples were clean at 0.5' bgs. However, we noticed that there was a very slight exceedance at 2' in this area during delineation while remedial activities were taking place. So, we decided to take it down to 2' in excavation to make sure our bases were covered. Due to safety concerns with the pipelines under the release, all exceedances found at 2' during delineation were excavated in the direct vicinity of them and we scraped at 0.5' everywhere in between to see if clean.

Corrections to the samples you have listed are below. In short, everything in the table is correct and the errors are only in the figure.

BES24-01 was excavated to 2'. The figure was supposed to have a polygon labeled as 2' around it.
BES24-18 was excavated to 0.5''. Table is correct and the blue polygon for 2' was supposed to only go around BES24-19 and BES24-20.
BES24-08 was excavated to 2'. Table is correct and the pink square polygon around it in the figure was supposed to be labeled as 2'.

I hope this clears it up. Again, I do apologize for this sloppiness. Please let me know if there are any more concerns.

Thank you,

From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Sent: Tuesday, July 30, 2024 3:20 PM
To: Chance Dixon <cdixon@vertexresource.com>
Subject: NAPP2331041267 JAMES RANCH UNIT DI 1A TANK BATTERY

Good afternoon Chance,

I am reviewing the submitted remediation closure report for NAPP2331041267 JAMES RANCH UNIT DI 1A TANK BATTERY and have a few questions for you. First of all, in the remediation summary it does not explain why samples at BES24-19 and BES24-20 were recollected at 2' on 5/28/24 after being clean at .5' on 3/12/24? Also, there are discrepancies between Figure 1 and Table 3:

BES24-01 .5' excavation in Figure 1 but 2' in Table 3
BES24-18 2' excavation in Figure 1 but .5' in Table 3
BES24-08 .5' excavation in Figure 1 but 2' in Table 3

Please let me know what is correct so I can make my determination regarding this release. I look forward to hearing what you have to say.

Kind regards,

Shelly

Shelly Wells * Environmental Specialist-Advanced
Environmental Bureau
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive|Santa Fe, NM 87505
(505)469-7520|Shelly.Wells@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

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

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

QUESTIONS

Action 367504

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 367504
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2331041267**
Incident Name	**NAPP2331041267 JAMES RANCH UNIT DI 1A TANK BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	JAMES RANCH UNIT DI 1A TANK BATTERY
Date Release Discovered	10/26/2023
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: Corrosion | Other (Specify) | Produced Water | Released: 9 BBL | Recovered: 7 BBL | Lost: 2 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)	Internal corrosion caused a 8” CS main PW line to release fluids to pad. A vac truck recovered all free fluids. A third-party contractor has been retained for remediation purposes.

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 367504
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
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: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 04/29/2024

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 367504
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 500 and 1000 (ft.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between ½ and 1 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Zero feet, overlying, or within area
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	12700
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	1250
GRO+DRO (EPA SW-846 Method 8015M)	1250
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	03/08/2024
On what date will (or did) the final sampling or liner inspection occur	04/24/2024
On what date will (or was) the remediation complete(d)	04/24/2024
What is the estimated surface area (in square feet) that will be reclaimed	4200
What is the estimated volume (in cubic yards) that will be reclaimed	120
What is the estimated surface area (in square feet) that will be remediated	4200
What is the estimated volume (in cubic yards) that will be remediated	300
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.	

District I
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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 367504
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
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: Amy Ruth Title: Coordinator SSHE Environmental Email: amy.ruth@exxonmobil.com Date: 07/25/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 367504
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only *Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.*	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
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QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**346916**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**05/28/2024**
What was the (estimated) number of samples that were to be gathered	**4**
What was the sampling surface area in square feet	**800**

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	4760
What was the total volume (cubic yards) remediated	190
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	12943
What was the total volume (in cubic yards) reclaimed	300
Summarize any additional remediation activities not included by answers (above)	Site was excavated to NMOCD's strictest closure 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: Amy Ruth Title: Coordinator SSHE Environmental Email: amy.ruth@exxonmobil.com Date: 07/25/2024

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QUESTIONS (continued)

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QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 367504

CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
scwells	None	7/30/2024