Incident Number: nAPP2315344281

Release Assessment and Closure

Carleton SWD

Section 18, Township 24 South, Range 28 East

API: 30-015-44419

County: Eddy

Vertex File Number: 23E-03626

Prepared for:

Solaris Water Midstream Company

Prepared by:

Vertex Resource Services Inc.

Date:

October 2023

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Release Assessment and Closure
Carleton SWD
Section 18, Township 24 South, Range 28 East
API: 30-015-44419
County: Eddy

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10/11/2023
Date

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1.0 Introduction

Solaris Water Midstream Company (Solaris) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water release that occurred on June 1, 2023, at Carleton SWD, API 30-015-44419 (hereafter referred to as the "site"). Solaris submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on June 7, 2023. Incident ID number nAPP2315344281 was assigned to the release.

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

2.0 Incident Description

The release was discovered on June 1, 2023, due to a trucker improperly offloading produced water into a sump area that then later overfilled and spilled onto the pad. The incident was reported on June 7, 2023, and involved the release of approximately 120 barrels of produced water on the pad site. Approximately 40 barrels of free fluid were removed during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report. Daily Field Reports (DFRs) with site photographs are included in Appendix C.

3.0 Site Characteristics

The site is located approximately 2.7 miles west of Malaga, New Mexico (Google Inc., 2023). The legal location for the site is Section 18, Township 24 South, and Range 28 East in Eddy County, New Mexico. The release area is located on State land. An aerial photograph and site schematic are presented in Figure 1.

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

The surrounding landscape is associated with plains with elevations ranging between 1,100 and 4,300 feet. The climate is semiarid with average annual precipitation ranging between 7 and 15 inches. Grasses with shrubs and half-shrubs dominate the historic plant community (United States Department of Agriculture, Natural Resources Conservation Service, 2023). Limited to no vegetation is allowed to grow on the compacted production pad, right-of-way, and access road.

The surface geology at the site primarily comprises Qa – Alluvium from the Holocene to upper Pleistocene ages (New Mexico Bureau of Geology and Mineral Resources, 2023), and the soil at the site is characterized as Uo – Upton gravelly loam (United States Department of Agriculture, Natural Resources Conservation Service, 2023). Additional soil

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characteristics include a drainage class of well-drained with a runoff class of high. The karst geology potential for the site is medium (United States Department of the Interior, Bureau of Land Management, 2018).

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 0.39 miles north of the location (United States Geological Survey, 2023). Data shows the NMOSE borehole recorded a depth to groundwater less than 50 feet below ground surface (bgs). Information pertaining to the depth to groundwater determination is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the Black River located approximately 0.53 miles north of the site (United States Fish and Wildlife Service, 2023).

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

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Table 1: Closure Criteria Worksheet			
Site Name: Carleton SWD			
Spill Coordinates: 32.21955, -104.11748		**X: 583161**	**Y: 3565113**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater	**<50**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	2,820	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	15,560	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	2,522	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**	2,099	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	2,793	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
10	Within a 100-year Floodplain	500	year
11	Soil Type	Atoka loam, Upton gravelly loam	
12	Ecological Classification	Shallow and Loamy	
13	Geology	Qa	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

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Based on the closure criteria research documentation, the closure criteria for the site were determined to be associated with the following concentration limits (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 June 23, 2023, which identified the area of the release specified in the initial C-141 Report. The impacted area was determined to be approximately 317 feet long and 174 feet wide; the total affected area was 27,232 square feet. The DFR associated with the site inspection is included in Appendix C.

Remediation efforts began on August 14, 2023, and were finalized on September 15, 2023. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on a total of 142 sample points and 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 4.5 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Field screening results and DFRs documenting various phases of the remediation are presented in Appendix C.

On August 29, 2023, a second overflow to the sump area occurred due to rainfall. The overflow caused residual impacts to flow into the excavation and impact BES23-71 through BES23-78, BES23-80, and BES23-92 through BES23-99 as seen in Figure 2. Additional samples were collected from these points after a 6-inch scrape was performed in the stained area. All samples were submitted for laboratory analysis for confirmation to ensure that no remnant impacts remained. It was determined that the samples collected from the newly impacted points showed no signs of remaining impacts after the scrape. Therefore, no further sampling was needed to ensure that remnant impacts no longer existed to impede the remediation of the release. Information pertaining to the additional sampling is provided in the confirmatory schematic (Figure 2) and in Table 3.

Notifications that confirmatory samples were being collected were provided to the NMOCD before each sampling event and are included in Appendix D. Confirmatory composite samples were collected from the base and walls of the excavation in 200-square-foot increments. A total of 170 samples were collected for laboratory analysis following

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NMOCD soil sampling procedures. Samples were submitted to Eurofins Xenco 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 the closure criteria for the site.

6.0 Closure Request

Vertex recommends no additional remediation to address the release at the site. Laboratory analyses of confirmation samples collected show final confirmatory values below NMOCD closure criteria for areas where depth to groundwater is less than 50 feet bgs as presented in Table 2. There are no anticipated risks to human, ecological, or hydrological receptors at the site.

The excavation was backfilled with non-waste-containing, uncontaminated, earthen material sourced locally and placed to meet the site's existing grade to prevent water ponding and erosion.

Vertex requests that this incident (nAPP2315344281) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Solaris certifies that all information in this report and the appendices are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the release.

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

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8.0 Limitations

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

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

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FIGURES

Borehole (Prefixed by "BH23-")

Point of Release

Approximate Lease Boundary

Approximate Release Area (~24,171 sq.ft.)

Proposed Excavation to 1' (~26,692 sq.ft.)

Proposed Excavation to 2' (~1,521 sq.ft.)

Proposed Excavation to 4.5' (~1,540 sq.ft.)

VERTEX

0 20 40 ft

Map Center:
Lat/Long: 32.220543, -104.117412

NAD 1983 UTM Zone 13N

Date: Jul 27/23

N

Characterization Sampling Site Schematic
Carleton SWD

FIGURE:
1

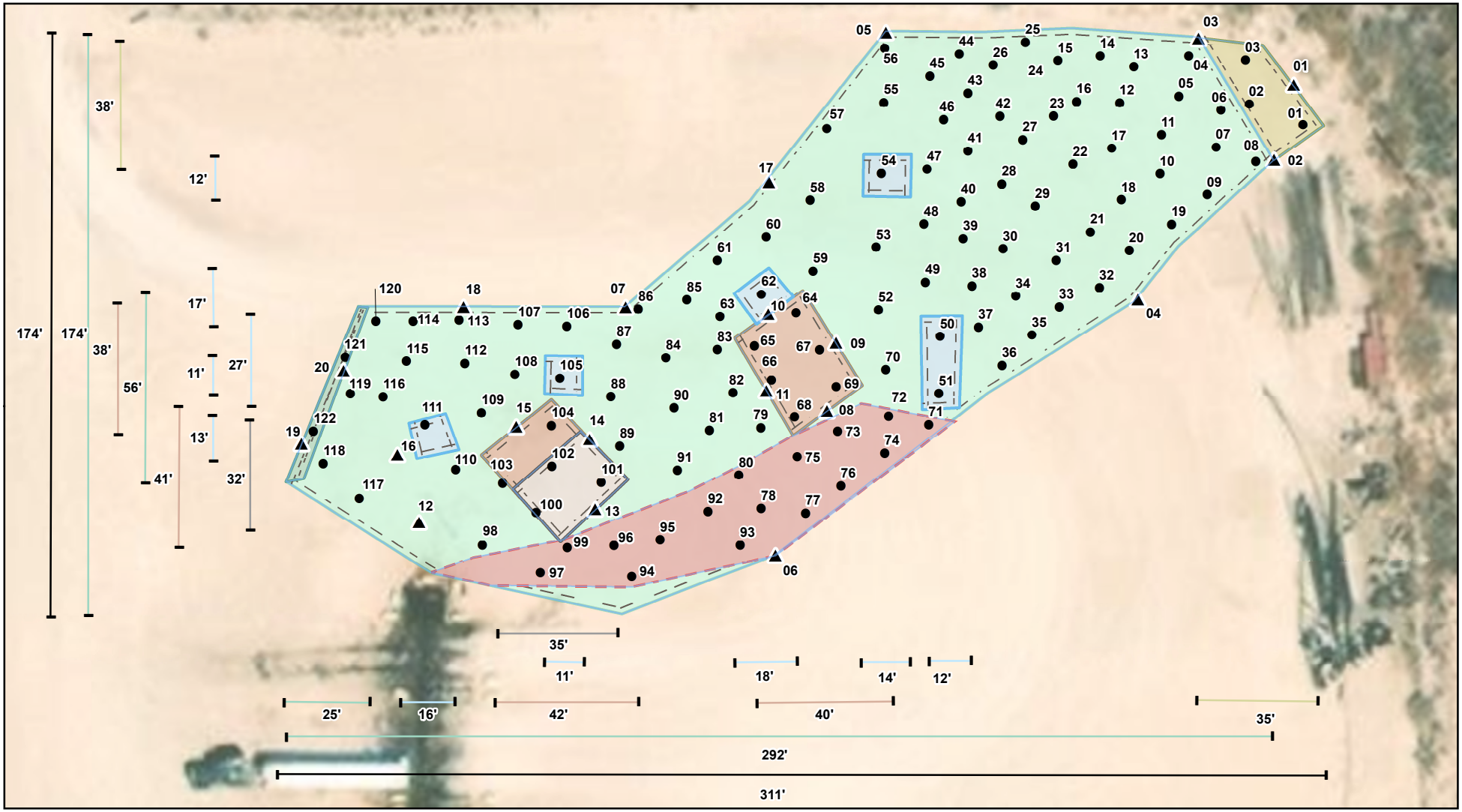
SOLARIS WATER MIDSTREAM

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

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

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Solaris Water Midstream\23E-03626 -Carleton SWD\Figure 1 Characterization Schematic (23E-03626).mxd



- Base Sample (Prefixed by "BES23-")
- Wall Sample (Prefixed by "WES23-")
- Approximate Sump Overflow Area to 1.5' bgs (~2,952 sq.ft.)
- Excavation to 1' bgs (~25,323 sq.ft.)
- Excavation to 1.5' bgs (~911 sq.ft.)
- Excavation to 2' bgs (~202 sq.ft.)
- Excavation to 3' bgs (~593 sq.ft.)
- Excavation to 4' bgs (~1,749 sq.ft.)
- Excavation to 4.5' bgs (~554 sq.ft.)

VERTEX

0 20 40 ft

Map Center:
Lat/Long: 32.220477, -104.117494

NAD 1983 UTM Zone 13N
Date: Oct 11/23

N

Confirmatory Sampling Site Schematic
Carleton SWD

FIGURE: **2**

SOLARIS WATER MIDSTREAM

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

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

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Document Path: G:\1-Projects_US PROJECTS\Solaris Water Midstream\23E-03626 -Carleton SWD\Figure 2 Confirmation Schematic (23E-03626).mxd

TABLES

Table 3. Initial Characterization Laboratory Results - Depth to Groundwater <50 feet bgs
Solaris Water Midstream, LLC
Carleton SWD
NM OCD Tracking #: nAPP2311343030
Project #: 23E-03626
Lab Report: 890-4857-1, 890-4866-1, 890-4878-1, 890-4882-1, 890-4889-1, 890-4961-1,

Sample Description			Petroleum Hydrocarbons										Inorganic
Sample ID	Depth (ft)	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	BTEX (Total) (mg/kg)	Gasoline Range Organics (GRO) (mg/kg)	Diesel Range Organics (DRO) (mg/kg)	Motor Oil Range Organics (MRO) (mg/kg)	(GRO + DRO) (mg/kg)	Total Petroleum Hydrocarbons (TPH) (mg/kg)	Chloride Concentration (mg/kg)
Criteria	NMOCD - NMAC <50 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	-	100	600
	NMOCD - NMAC 51-100 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	1,000	2,500	10,000
	NMOCD - NMAC >100 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	1,000	2,500	20,000
Excavation													
BH23-01	0	2023-06-23	ND	ND	ND	ND	ND	ND	**11800**	**1760**	**11800**	**13600**	401
BH23-01	2	2023-06-23	ND	ND	ND	ND	ND	ND	73.9	52.3	73.9	**126**	269
BH23-02	0	2023-06-23	ND	ND	ND	ND	ND	ND	**217**	ND	217	217	**711**
BH23-02	2	2023-06-23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	471
BH23-03	0	2023-06-23	ND	ND	ND	ND	ND	ND	**212**	ND	**212**	**212**	**1140**
BH23-03	2	2023-06-23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	289
BH23-03	4	2023-06-23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	272
BH23-04	0	2023-06-23	ND	ND	ND	ND	ND	ND	**1800**	ND	**1800**	**1800**	163
BH23-04	2	2023-06-23	ND	ND	ND	ND	ND	ND	75.4	ND	75.4	75.4	73.7
BH23-05	0	2023-06-23	ND	ND	ND	ND	ND	ND	**735**	ND	**735**	**735**	**2820**
BH23-05	2	2023-06-23	ND	ND	ND	ND	ND	ND	59	ND	59	59	520
BH23-06	0	2023-06-23	ND	ND	ND	ND	ND	ND	**3700**	ND	**3700**	**3700**	**776**
BH23-06	2	2023-06-23	ND	ND	ND	ND	ND	ND	54.4	ND	54.4	54.4	**1010**
BH23-06	4	2023-06-23	ND	0.0045	ND	ND	0.0045	ND	**177**	ND	**177**	**177**	472
BH23-07	0	2023-06-26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**696**
BH23-07	2	2023-06-26	ND	ND	ND	ND	ND	ND	**145**	ND	**145**	**145**	357
BH23-08	0	2023-06-26	ND	ND	ND	ND	ND	ND	**3700**	ND	**3700**	**3700**	**3590**
BH23-08	2	2023-06-26	ND	ND	ND	ND	ND	ND	**166**	ND	**166**	**166**	428
BH23-09	0	2023-06-26	ND	ND	ND	ND	ND	56.8	**11800**	ND	**11900**	**11900**	265
BH23-09	2	2023-06-26	ND	ND	ND	ND	ND	ND	**257**	ND	**257**	**257**	185
BH23-09	4	2023-06-26	ND	ND	ND	ND	ND	ND	**139**	ND	**139**	**139**	76.5
BH23-10	0	2023-06-26	ND	ND	ND	ND	ND	ND	**4050**	ND	**4050**	**4050**	**1520**
BH23-10	2	2023-06-26	ND	ND	ND	ND	ND	ND	**132**	ND	**132**	**132**	164
BH23-11	0	2023-06-26	ND	ND	ND	ND	ND	ND	**9730**	ND	**9730**	**9730**	**796**
BH23-11	2	2023-06-26	ND	ND	ND	ND	ND	ND	**113**	ND	**113**	**113**	558
BH23-12	0	2023-06-26	ND	ND	ND	0.027	0.027	**479**	**6490**	ND	**6970**	**6970**	**3870**
BH23-12	2	2023-06-26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	367
BH23-19	0	2023-06-28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	53
BH23-19	2	2023-06-28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	62
BH23-20	0	2023-06-28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	51
BH23-20	2	2023-06-28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39
BH23-21	0	2023-06-28	ND	ND	ND	ND	ND	ND	**162**	ND	**162**	**162**	66
BH23-21	2	2023-06-28	ND	ND	ND	ND	ND	ND	**176**	ND	**176**	**176**	95
BH23-23	0	2023-06-29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	219
BH23-23	2	2023-06-29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	220
BH23-25	0	2023-06-29	ND	ND	ND	ND	ND	ND	77	ND	77	77	278
BH23-25	2	2023-06-29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	184
BH23-26	0	2023-06-29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1410**
BH23-26	2	2023-06-29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	75
BH23-27	0	2023-06-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	377
BH23-27	2	2023-06-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	141
BH23-28	0	2023-06-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	48.3
BH23-28	2	2023-06-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	54.1
BH23-29	0	2023-07-18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	55.2
BH23-29	2	2023-07-18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	54.2

Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)
NMAC - New Mexico Administrative Code (Title 19, Chapter 15, Part 29; 2018)

VERTEX

Client Name: Solaris Midstream Water Company
Site Name: Carleton SWD
NMOCD Tracking #: nAPP2315344281
Project #: 23E-03626
Lab Reports: 890-5113-1, 890-5133-1, 890-5137-1, 890-5151-1, 890-5155-1, 890-5161-1, 890-5169-1, 890-5193-1, 890-5250-1

Table 4. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BES23-01	3	2023-08-16	ND	ND	ND	ND	ND	ND	ND	72
BES23-02	3	2023-08-16	ND	ND	ND	ND	ND	ND	ND	94
BES23-03	3	2023-08-16	ND	ND	ND	ND	ND	ND	ND	97
BES23-04	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	124
BES23-05	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	51
BES23-06	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	87
BES23-07	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	118
BES23-08	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	154
BES23-09	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	176
BES23-10	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	73
BES23-11	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	89
BES23-12	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	106
BES23-13	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	169
BES23-14	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	100
BES23-15	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	104
BES23-16	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	74
BES23-17	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	215
BES23-18	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	271
BES23-19	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	280
BES23-20	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	229
BES23-21	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	213
BES23-22	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	91
BES23-23	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	196
BES23-24	1	2023-08-16	ND	ND	ND	ND	ND	ND	ND	92
BES23-25	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	131
BES23-26	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	100
BES23-27	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	502
BES23-28	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	594
BES23-29	1	2023-08-18	ND	ND	ND	58.5	ND	58.5	58.5	495
BES23-30	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	566
BES23-31	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	92
BES23-32	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	87
BES23-33	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	111
BES23-34	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	84
BES23-35	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	88
BES23-36	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	90
BES23-37	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	91

Table 4. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs											
Sample Description			Petroleum Hydrocarbons							Inorganic	
			Volatile		Extractable						
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BES23-38	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	91	
BES23-39	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	171	
BES23-40	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	71	
BES23-41	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	94	
BES23-42	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	88	
BES23-43	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	112	
BES23-44	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	100	
BES23-45	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	83	
BES23-46	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	74	
BES23-47	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	73	
BES23-48	1	2023-08-18	ND	ND	ND	ND	ND	ND	ND	99	
BES23-49	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	552	
BES23-50	1	2023-08-21	ND	ND	**468**	ND	ND	**468**	**468**	358	
BES23-50	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	133	
BES23-51	1	2023-08-21	ND	ND	**851**	ND	ND	**851**	**851**	389	
BES23-51	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	408	
BES23-52	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	263	
BES23-53	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	287	
BES23-54	1	2023-08-21	ND	ND	**433**	ND	ND	**433**	**433**	119	
BES23-54	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	358	
BES23-55	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	144	
BES23-56	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	83	
BES23-57	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	82	
BES23-58	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	74	
BES23-59	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	43	
BES23-60	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	92	
BES23-61	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	134	
BES23-62	1	2023-08-21	ND	ND	ND	ND	ND	ND	ND	**836**	
BES23-62	1.5	2023-09-15	ND	ND	ND	55.9	ND	55.9	55.9	34	
BES23-63	1	2023-08-23	ND	ND	ND	ND	ND	ND	ND	504	
BES23-64	4	2023-08-23	ND	ND	ND	ND	ND	ND	ND	488	
BES23-65	4	2023-08-23	ND	ND	ND	ND	ND	ND	ND	338	
BES23-66	4	2023-08-23	ND	ND	ND	ND	ND	ND	ND	226	
BES23-67	4	2023-08-23	ND	ND	ND	ND	ND	ND	ND	119	
BES23-68	4	2023-08-23	ND	ND	ND	ND	ND	ND	ND	143	
BES23-69	4	2023-08-23	ND	ND	ND	ND	ND	ND	ND	218	
BES23-70	1	2023-08-23	ND	ND	ND	ND	ND	ND	ND	377	
BES23-71	1	2023-08-23	ND	ND	ND	ND	ND	ND	ND	250	
BES23-71	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	343	
BES23-72	1	2023-08-23	ND	ND	ND	ND	ND	ND	ND	571	
BES23-72	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	160	
BES23-73	1	2023-08-23	ND	ND	ND	ND	ND	ND	ND	369	
BES23-73	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	450	

Table 4. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs											
Sample Description			Petroleum Hydrocarbons							Inorganic	
			Volatile		Extractable						
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BES23-74	1	2023-08-23	ND	ND	ND	ND	ND	ND	ND	291	
BES23-74	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	248	
BES23-75	1	2023-08-23	ND	ND	ND	ND	ND	ND	ND	245	
BES23-75	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	192	
BES23-76	1	2023-08-23	ND	ND	ND	ND	ND	ND	ND	250	
BES23-76	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	153	
BES23-77	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	293	
BES23-77	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	167	
BES23-78	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	290	
BES23-78	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	303	
BES23-79	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	293	
BES23-80	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	107	
BES23-80	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	106	
BES23-81	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	201	
BES23-82	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	194	
BES23-83	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	276	
BES23-84	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	300	
BES23-85	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	250	
BES23-86	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	149	
BES23-87	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	120	
BES23-88	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	346	
BES23-89	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	213	
BES23-90	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	365	
BES23-91	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	155	
BES23-92	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	227	
BES23-92	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	220	
BES23-93	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	200	
BES23-93	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	364	
BES23-94	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	189	
BES23-94	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	153	
BES23-95	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	218	
BES23-95	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	229	
BES23-96	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	201	
BES23-96	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	88	
BES23-97	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	203	
BES23-97	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	105	
BES23-98	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	178	
BES23-98	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	320	
BES23-99	1	2023-08-24	ND	ND	ND	ND	ND	ND	ND	227	
BES23-99	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	394	
BES23-100	4	2023-08-25	ND	ND	ND	ND	ND	ND	ND	97	
BES23-100	4.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	395	
BES23-101	4	2023-08-25	ND	ND	ND	ND	ND	ND	ND	62	
BES23-101	4.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	100	

Table 4. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs											
Sample Description			Petroleum Hydrocarbons							Inorganic	
			Volatile		Extractable						
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BES23-102	4	2023-08-25	ND	ND	ND	ND	ND	ND	ND	41	
BES23-102	4.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	196	
BES23-103	4	2023-08-25	ND	ND	ND	84	ND	84	84	85	
BES23-104	4	2023-08-25	ND	ND	ND	70	ND	70	70	56	
BES23-105	1	2023-08-25	ND	ND	ND	**105**	ND	**105**	**105**	257	
BES23-105	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	317	
BES23-106	1	2023-08-25	ND	ND	ND	77	ND	77	77	247	
BES23-107	1	2023-08-25	ND	ND	ND	ND	ND	ND	ND	196	
BES23-108	1	2023-08-25	ND	ND	ND	84	ND	84	84	276	
BES23-109	1	2023-08-25	ND	ND	ND	52	ND	52	52	229	
BES23-110	1	2023-08-25	ND	ND	ND	**200**	ND	**200**	**200**	215	
BES23-110	1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	113	
BES23-111	1	2023-08-28	ND	ND	ND	ND	ND	ND	ND	149	
BES23-112	1	2023-08-28	ND	ND	ND	ND	ND	ND	ND	200	
BES23-113	1	2023-08-28	ND	ND	ND	52.7	ND	52.7	52.7	321	
BES23-114	1	2023-08-28	ND	ND	ND	93	ND	93	93	150	
BES23-115	1	2023-08-28	ND	ND	ND	ND	ND	ND	ND	143	
BES23-116	1	2023-08-28	ND	ND	ND	ND	ND	ND	ND	143	
BES23-117	1	2023-08-28	ND	ND	ND	ND	ND	ND	ND	208	
BES23-118	1	2023-08-28	ND	ND	ND	63.6	ND	63.6	63.6	351	
BES23-119	1	2023-08-28	ND	ND	ND	ND	ND	ND	ND	392	
BES23-120	1	2023-08-28	ND	ND	ND	ND	ND	ND	ND	276	
BES23-121	2	2023-08-28	ND	ND	ND	ND	ND	ND	ND	113	
BES23-122	2	2023-08-28	ND	ND	ND	ND	ND	ND	ND	149	
WES23-01	0-3	2023-09-12	ND	ND	ND	ND	ND	ND	ND	157	
WES23-02	0-3	2023-09-12	ND	ND	ND	ND	ND	ND	ND	78	
WES23-03	0-3	2023-09-12	ND	ND	ND	ND	ND	ND	ND	141	
WES23-04	0-1	2023-09-12	ND	ND	ND	ND	ND	ND	ND	132	
WES23-05	0-1	2023-09-12	ND	ND	ND	ND	ND	ND	ND	138	
WES23-06	0-1	2023-09-12	ND	ND	ND	ND	ND	ND	ND	70	
WES23-06	0-1.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	98	
WES23-07	0-1	2023-09-12	ND	ND	ND	ND	ND	ND	ND	134	
WES23-08	0-4	2023-09-12	ND	ND	ND	ND	ND	ND	ND	54	
WES23-08	0-4.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	164	
WES23-09	1-4	2023-09-12	ND	ND	ND	ND	ND	ND	ND	74	
WES23-10	1-4	2023-09-12	ND	ND	ND	ND	ND	ND	ND	128	
WES23-11	1-4	2023-09-12	ND	ND	ND	ND	ND	ND	ND	90	
WES23-12	0-4	2023-09-12	ND	ND	ND	ND	ND	ND	ND	114	
WES23-12	0-4.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	376	
WES23-13	1-4	2023-09-12	ND	ND	ND	53.4	ND	53.4	53.4	215	
WES23-13	0-4.5	2023-09-12	ND	ND	ND	ND	ND	ND	ND	88	
WES23-14	1-4	2023-09-12	ND	ND	ND	ND	ND	ND	ND	76	
WES23-15	1-4	2023-09-12	ND	ND	ND	ND	ND	ND	ND	103	
WES23-16	0-1	2023-09-12	ND	ND	ND	ND	ND	ND	ND	111	

Table 4. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs											
Sample Description			Petroleum Hydrocarbons							Inorganic	
			Volatile		Extractable						
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
WES23-17	0-1	2023-09-12	ND	ND	ND	ND	ND	ND	ND	76	
WES23-18	0-1	2023-09-12	ND	ND	ND	ND	ND	ND	ND	140	
WES23-19	0-2	2023-09-12	ND	ND	ND	ND	ND	ND	ND	145	
WES23-20	0-2	2023-09-12	ND	ND	ND	ND	ND	ND	ND	156	

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

APPENDIX A - NMOCD C-141 Report

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2315344281
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Solaris Water Midstream	OGRID 371643
Contact Name Rob Kirk	Contact Telephone O 432-203-9020 C 469-978-5620
Contact email Rob.Kirk@ariswater.com	Incident # *(assigned by OCD)*
Contact mailing address 907 Tradewinds Blvd, Ste B, Midland Tx 79706	

Location of Release Source

Latitude 32.21955 Longitude -104.11748
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Carleton SWD	Site Type SWD Facility
Date Release Discovered 1 June 2023	API# *(if applicable)* 30-015-44419

Unit Letter	Section	Township	Range	County
E	18	24S	28E	Eddy

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

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) 120 BBLs	Volume Recovered (bbls) 40 BBLs
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☑ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release Agave a third party trucking company offloaded into sump area when later overfilled.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2315344281
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? The volume of produced water released

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
NMOCD web portal NOR completed by Rob Kirk, email to NMOCD

Initial Response

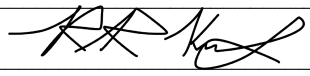
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

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

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

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

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

Printed Name: Rob Kirk
Title: Vice President, Environmental Compliance
Signature: 
Date: 06/07/2023
email: Rob.Kirk@ariswater.com
Telephone: 469-978-5620

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2315344281
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☒ Yes ☐ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2315344281
District RP	
Facility ID	
Application ID	

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

Printed Name: Rob Kirk Title: VP Environmental Compliance

Signature: Date: 10/12/2023

email: rob.kirk@ariswater.com Telephone: 469-978-5620

OCD Only

Received by: Shelly Wells Date: 10/13/2023

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2315344281
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

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

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

☒ Description of remediation activities

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

Printed Name: Rob Kirk Title: VP, Environmental Compliance

Signature: Date: 10/12/2023

email: rob.kirk@ariswater.com Telephone: 469 - 978 -5620

OCD Only

Received by: Shelly Wells Date: 10/13/2023

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

Closure Approved by: Date:

Printed Name: Title:

APPENDIX B – Closure Criteria Research Documentation

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 6416 4	Sec	Tws	Rng	X	Y	Distance
C 00365	CUB	IRR	185.7	CARLETON JOE O	ED	C 00365				Shallow	2 4 1	17	24S	28E	583791	3565226*	640
C 04434	CUB	EXP	0	RANDALL KEITH COUNTS	ED	C 04434 POD1	NA				3 3 3	08	24S	28E	583123	3565757	645
					ED	C 04434 POD2					3 1 2	17	24S	28E	583902	3565442	811
C 00361	CUB	CLS	0	C.D. DONAHO	ED	C 00361		C			3 3	08	24S	28E	583283	3565926*	822
C 00365	CUB	IRR	185.7	CRAFT JAMES R	ED	C 00365 S					3 3	08	24S	28E	583283	3565926*	822
C 01963	C	DOL	0	WILLA L MCPHEARSON	ED	C 01963					4 4	07	24S	28E	582877	3565921*	856
SD 01886	CUB	IRR	100	MONICA CALDERON	ED	SD 01886					4 4	07	24S	28E	582877	3565921*	856
C 00648	C	DOM	3	T. J. CARLETON	ED	C 00648				Shallow	2 2 2	17	24S	28E	584593	3565644*	1527
C 00575	CUB	IRR	0	J.R. DUARTE	ED	C 00575					4 4	08	24S	28E	584491	3565951*	1571

Record Count: 9

UTMNAD83 Radius Search (in meters):

Easting (X): 583161 **Northing (Y):** 3565113 **Radius:** 1610

Sorted by: Distance

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

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

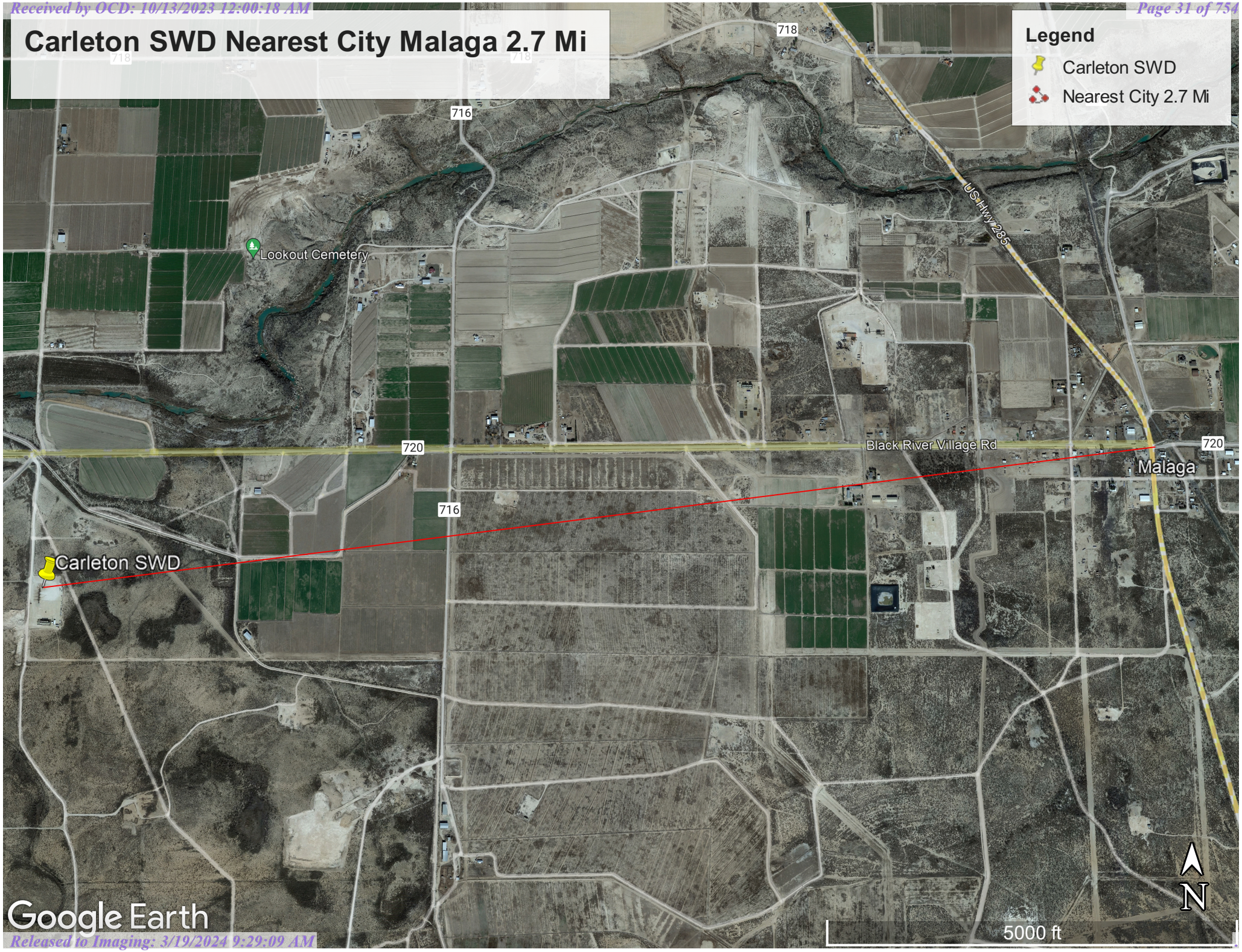
Carleton SWD Residence

Closest Residence: 0.48mi

Legend

Carleton SWD

Carleton SWD Nearest City Malaga 2.7 Mi



Carleton SWD Mine

6/15/2023, 2:54:01 PM

1:9,028

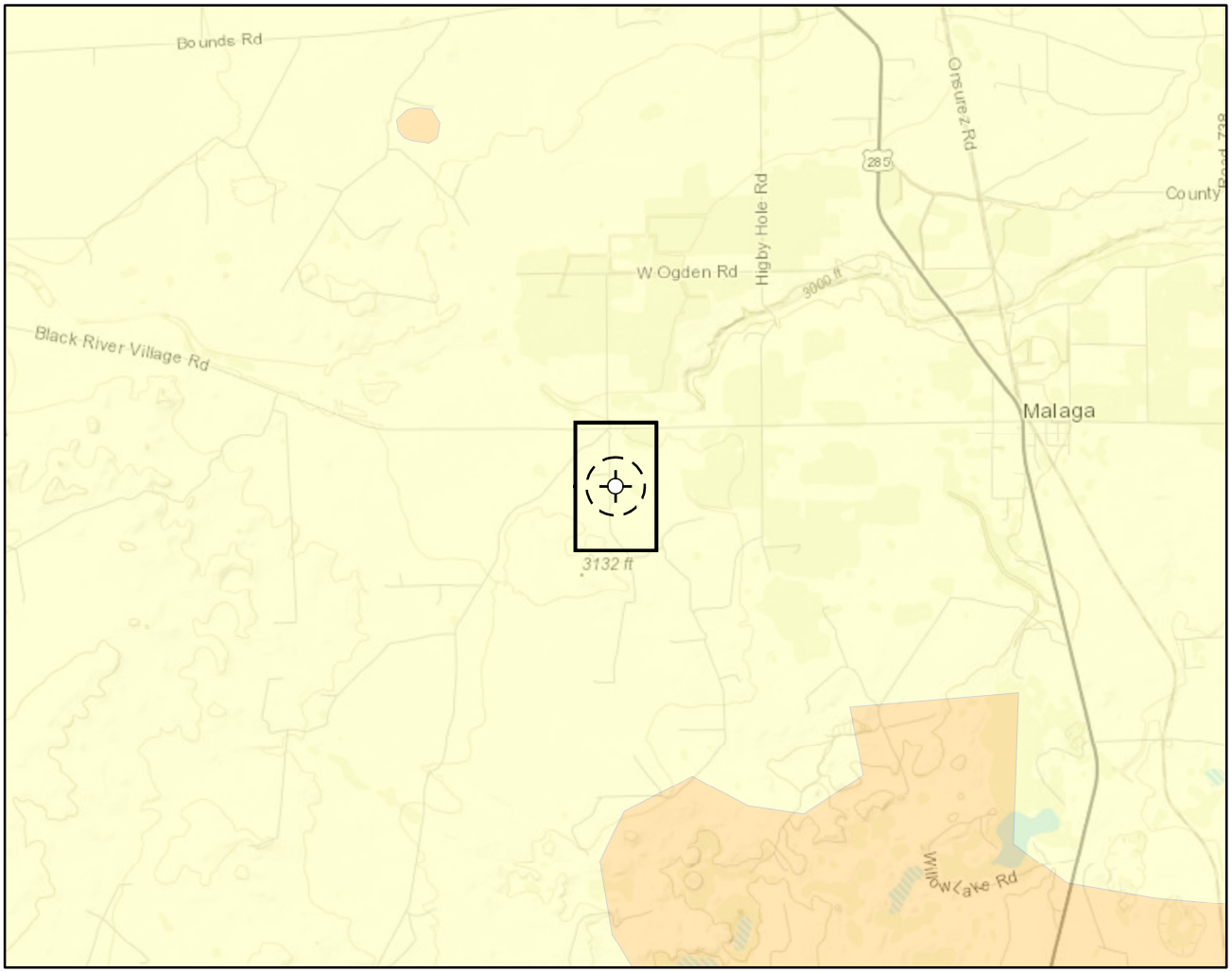
0 0.05 0.1 0.2 mi

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
- Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.219550, -104.117480

NAD 1983 UTM Zone 13N
Date: Jun 19/23

N

Karst Potential Map
Carleton SWD

FIGURE:
X

SOLARIS WATER MIDSTREAM

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 Rosswell 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\Solaris Water Midstream\23E-03626\Figure X Karst Potential Map Carleton SWD (23E-03626) 16107.mxd

Received by OCD: 10/13/2023 12:00:18 AM

National Flood Hazard Layer FIRMette

FEMA

104°7'22"W 32°13'26"N

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

1:6,000

104°6'44"W 32°12'55"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/15/2023 at 4:56 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.

Released to Imaging: 3/19/2024 9:29:09 AM

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

June 15, 2023

Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map (Carleton SWD)

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

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

Special Point Features

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

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

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

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

Date(s) aerial images were photographed: Nov 12, 2022—Dec 2, 2022

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

Map Unit Legend (Carleton SWD)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ao	Atoka loam, 0 to 1 percent slopes	5.6	11.9%
At	Atoka loam, 1 to 3 percent slopes	0.0	0.0%
Kr	Karro loam, 0 to 1 percent slopes	8.9	19.0%
Ku	Karro loam, 1 to 3 percent slopes	3.4	7.3%
Uo	Upton gravelly loam, 0 to 9 percent slopes	29.0	61.8%
Totals for Area of Interest		**47.0**	**100.0%**

Map Unit Descriptions (Carleton SWD)

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

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

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

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

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

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

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

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

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

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

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

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

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Eddy Area, New Mexico

Ao—Atoka loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1w40
Elevation: 1,100 to 4,300 feet
Mean annual precipitation: 7 to 15 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Atoka and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Atoka

Setting

Landform: Plains
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 33 inches: loam
H3 - 33 to 37 inches: indurated

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 20 to 40 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 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 6.4 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Received by OCD: 10/13/2023 12:00:18 AM

Minor Components

Reagan

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Upton

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

Atoka

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

At—Atoka loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w41
Elevation: 1,100 to 4,300 feet
Mean annual precipitation: 7 to 14 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Atoka

Setting

Landform: Plains
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 33 inches: loam
H3 - 33 to 37 inches: indurated

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 20 to 40 inches to petrocalcic
Drainage class: Well drained
Runoff class: High

Released to Imaging: 3/19/2024 9:29:09 AM

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 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 6.4 inches)

Interpretive groups
Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Minor Components

Atoka
Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

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

Kr—Karro loam, 0 to 1 percent slopes

Map Unit Setting
National map unit symbol: 1w4v
Elevation: 2,500 to 5,300 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 200 to 230 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Karro and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Karro

Setting
Landform: Plains, alluvial fans
Landform position (three-dimensional): Riser, talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear

Parent material: Mixed alluvium

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 90 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
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: 60 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: R070BC030NM - Limy
Hydric soil rating: No

Minor Components

Reeves

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Ku—Karro loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w4w
Elevation: 2,500 to 5,300 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 120 to 230 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Karro

Setting

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

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 90 inches: loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
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: 60 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: R070BC030NM - Limy
Hydric soil rating: No

Minor Components

Karro

Percent of map unit: 1 percent
Ecological site: R070BC030NM - Limy
Hydric soil rating: No

Reeves

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Uo—Upton gravelly loam, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1w67

Elevation: 1,100 to 4,400 feet
Mean annual precipitation: 7 to 15 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Upton and similar soils: 96 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Upton

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R070BC025NM - Shallow
Hydric soil rating: No

Minor Components

Atoka

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Atoka

Percent of map unit: 1 percent

Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Upton

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

Reagan

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

References

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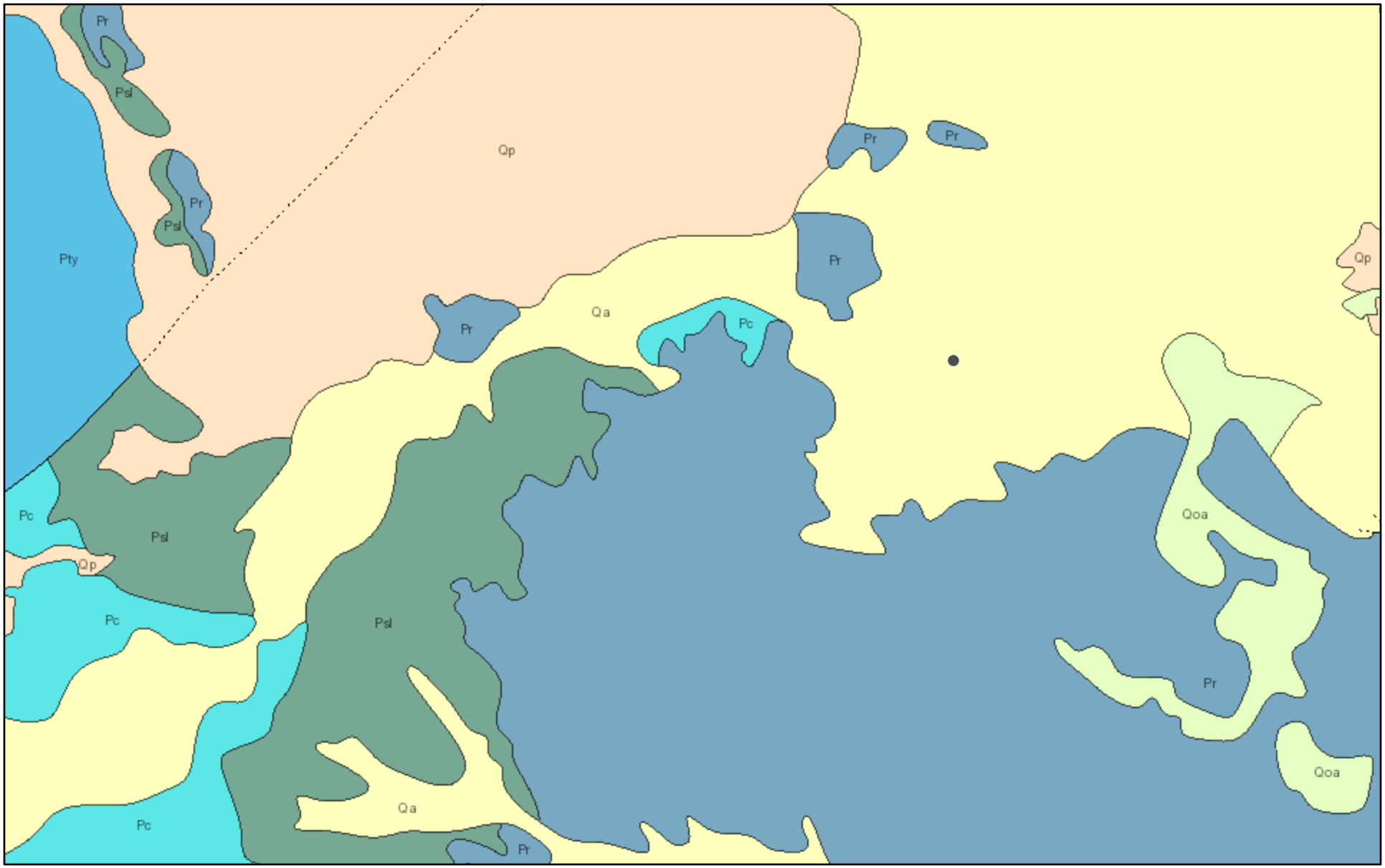
Carleton SWD Geology



6/15/2023, 3:09:41 PM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Lithologic Units

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

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

ArcGIS Web AppBuilder

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

APPENDIX C – Daily Field Reports

Daily Site Visit Report

Client:	Solaris Water Midstream	Inspection Date:	6/23/2023
Site Location Name:	Carleton SWD	Report Run Date:	6/23/2023 8:41 PM
Client Contact Name:	Fernando Carrasco	API #:	
Client Contact Phone #:	432-924-9416		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/23/2023 8:45 AM
Departed Site	6/23/2023 1:48 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

9:30 Arrived on site and filled out safety paperwork. Did site assessment. Mapped areas of release and plotted sample points.

10:55 Began hand augering boreholes 1 - 6 at assigned depths

14:41 Processed BH23-01 - BH23-06 at 0’ and 2’, and BH23-03 and BH23-06 at 4’. Field screened, jarred, and sent to lab.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: South
Spill area facing north	Spill area facing south
Viewing Direction: Northeast	**Viewing Direction**: South
Spill area facing northeast	Spill area facing south

Daily Site Visit Report

Viewing Direction: Southwest	**Viewing Direction**: West
Spill area facing southwest	Spill area facing west
Viewing Direction: West	**Viewing Direction**: North
Spill area facing west	Spill area facing north

Daily Site Visit Report

Viewing Direction: North

Spill area facing north

Viewing Direction: North

Spill area facing north

Viewing Direction: North

Spill area facing north

Viewing Direction: North

Spill area facing north

Daily Site Visit Report

Viewing Direction: East

Spill area facing east

Viewing Direction: East

Spill area facing east

Viewing Direction: South

Spill area facing south

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Angela Mohle

Signature:
Signature

Daily Site Visit Report

Client:	Solaris Water Midstream	Inspection Date:	8/28/2023
Site Location Name:	Carleton SWD	Report Run Date:	8/28/2023 8:56 PM
Client Contact Name:	Fernando Carrasco	API #:	
Client Contact Phone #:	432-924-9416		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	8/28/2023 8:45 AM
Departed Site	8/28/2023 1:56 PM

Field Notes

13:08 Arrived on site and filled out safety paperwork.

13:56 Collected and field screened samples BES23-111 through 122.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

Western portion of excavation.

Viewing Direction: Northeast

Eastern excavation area.

Viewing Direction: North

3’ excavation in easternmost part of excavation area.

Viewing Direction: West

Eastern excavation area.

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: East
4ft area in western portion of excavation.	Most western portion of excavation.
Viewing Direction: South	**Viewing Direction**: South
2’ trench in westernmost portion of excavation.	Western area of excavation.

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: East
4’ area in center of excavation.	Eastern excavation area.
Viewing Direction: North	**Viewing Direction**: North
Backfill material pile.	Middle of excavation area.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Hunter Klein

Signature:

Daily Site Visit Report

Client:	Solaris Water Midstream	Inspection Date:	9/15/2023
Site Location Name:	Carleton SWD	Report Run Date:	10/12/2023 2:24 PM
Client Contact Name:	Fernando Carrasco	API #:	
Client Contact Phone #:	432-924-9416		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	9/15/2023 2:35 PM
Departed Site	9/15/2023 4:30 PM

Field Notes

16:27 Arrived on site and filled out safety paperwork.

16:27 Hand scraped area around BES23-62 and sampled to 2'. Field screened as clean and jarred for lab submission.

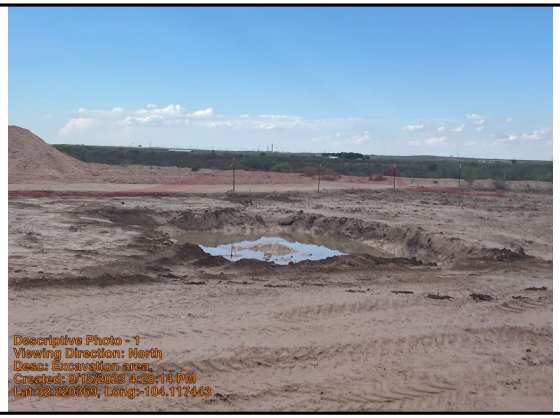
Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North



Excavation area.

Viewing Direction: North

Excavation area.

Viewing Direction: East

Excavation area.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Hunter Klein

Signature:

APPENDIX D – Notifications

Gmail

Dhugal Hanton <vertexresourcegroupusa@gmail.com>

48-Hour Notification - Carleton SWD

2 messages

Dhugal Hanton <vertexresourcegroupusa@gmail.com> Mon, Aug 7, 2023 at 3:32 PM
To: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com
Bcc: HKlein@vertex.ca

All,

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

nAPP2315344281

On Monday, August 14, 2023, at approximately 8:00 a.m., Vertex will be on-site to conduct confirmation sampling. The sampling will continue through Friday, August 18, 2023. If you have any questions regarding this notification, please call me at 575-988-1472.

Thank you,

Chance Dixon B.Sc.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

C 575.988.1472

Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov> Mon, Aug 7, 2023 at 4:26 PM
To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>

Hi Chance,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

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/

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Monday, August 7, 2023 3:33 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com
Subject: [EXTERNAL] 48-Hour Notification - Carleton SWD

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

[Quoted text hidden]

Gmail

Dhugal Hanton <vertexresourcegroupusa@gmail.com>

48-Hour Notification - Carleton SWD

2 messages

Dhugal Hanton <vertexresourcegroupusa@gmail.com> Thu, Aug 17, 2023 at 1:01 PM
To: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com
Bcc: HKlein@vertex.ca

All,

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

nAPP2315344281

On Monday, August 21, 2023, at approximately 2:00 p.m., Vertex will be on-site to conduct confirmation sampling. The sampling will continue through Friday, August 25, 2023. If you have any questions regarding this notification, please call me at 575-988-1472.

Thank you,

Chance Dixon B.Sc.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

C 575.988.1472

Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov> Thu, Aug 17, 2023 at 1:13 PM
To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>

Good afternoon Chance,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

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/

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Thursday, August 17, 2023 1:02 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com
Subject: [EXTERNAL] 48-Hour Notification - Carleton SWD

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Gmail

Dhugal Hanton <vertexresourcegroupusa@gmail.com>

48-Hour Notification - Carleton SWD

2 messages

Dhugal Hanton <vertexresourcegroupusa@gmail.com> Wed, Aug 23, 2023 at 4:09 PM
To: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com
Bcc: HKlein@vertex.ca

All,

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

nAPP2315344281

On Monday, August 28, 2023, at approximately 8:00 p.m., Vertex will be on-site to conduct confirmation sampling. The sampling will continue through Friday, September 1, 2023. If you have any questions regarding this notification, please call me at 575-988-1472.

Thank you,

Chance Dixon B.Sc.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

C 575.988.1472

Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov> Wed, Aug 23, 2023 at 4:44 PM
To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>

Hi Chance,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

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/

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Wednesday, August 23, 2023 4:10 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com
Subject: [EXTERNAL] 48-Hour Notification - Carleton SWD

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

48-Hour Notification - Carleton SWD

2 messages

Dhugal Hanton <vertexresourcegroupusa@gmail.com> Wed, Aug 30, 2023 at 2:23 PM
To: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com
Bcc: HKlein@vertex.ca

All,

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

nAPP2315344281

On Tuesday, September 5, 2023, at approximately 8:00 p.m., Vertex will be on-site to conduct confirmation sampling. The sampling will continue through Friday, September 8, 2023. If you have any questions regarding this notification, please call me at 575-988-1472.

Thank you,

Chance Dixon B.Sc.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

C 575.988.1472

Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov> Wed, Aug 30, 2023 at 2:48 PM
To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>

Good afternoon Chance,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

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/

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Wednesday, August 30, 2023 2:24 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com
Subject: [EXTERNAL] 48-Hour Notification - Carleton SWD

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[Quoted text hidden]

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

48-Hour Notification - Carleton SWD

2 messages

Dhugal Hanton <vertexresourcegroupusa@gmail.com> Thu, Sep 7, 2023 at 9:36 AM
To: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com, julian.romero@ariswater.com
Bcc: HKlein@vertex.ca

All,

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

nAPP2315344281

On Tuesday, September 11, 2023, at approximately 11:00 p.m., Vertex will be on-site to conduct confirmation sampling. The sampling will continue through Friday, September 15, 2023. If you have any questions regarding this notification, please call me at 575-988-1472.

Thank you,

Chance Dixon B.Sc.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

C 575.988.1472

Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov> Thu, Sep 7, 2023 at 10:08 AM
To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>

Hi Chance,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

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/

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Thursday, September 7, 2023 9:36 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: rob.kirk@ariswater.com; julian.romero@ariswater.com
Subject: [EXTERNAL] 48-Hour Notification - Carleton SWD

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

[Quoted text hidden]

APPENDIX E – 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 6/30/2023 4:38:59 PM

JOB DESCRIPTION

Carleton SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-4857-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

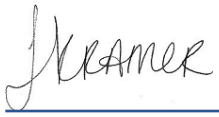
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
6/30/2023 4:38:59 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-4857-1
SDG: 23E-03626

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Definitions/Glossary

Client: Vertex Job ID: 890-4857-1
Project/Site: Carleton SWD SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Job ID: 890-4857-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4857-1

Receipt
The samples were received on 6/23/2023 3:55 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 14.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-01 0' (890-4857-1), BH23-01 2' (890-4857-2), BH23-02 0' (890-4857-3), BH23-02 2' (890-4857-4), BH23-02 0' (890-4857-5), BH23-03 2' (890-4857-6), BH23-03 4' (890-4857-7), BH23-04 0' (890-4857-8), BH23-04 2' (890-4857-9), BH23-05 0' (890-4857-10), BH23-05 2' (890-4857-11), BH23-06 0' (890-4857-12), BH23-06 2' (890-4857-13) and BH23-06 4' (890-4857-14).

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): BH23-01 0' (890-4857-1), BH23-01 2' (890-4857-2), BH23-02 0' (890-4857-3), BH23-02 2' (890-4857-4), BH23-02 0' (890-4857-5), BH23-03 2' (890-4857-6), BH23-03 4' (890-4857-7), BH23-04 0' (890-4857-8), BH23-04 2' (890-4857-9), BH23-05 0' (890-4857-10), BH23-05 2' (890-4857-11), BH23-06 0' (890-4857-12), BH23-06 2' (890-4857-13) and BH23-06 4' (890-4857-14). The container labels list <SAMPLE_ID>, while the COC lists <SAMPLEID>. The client was contacted, and the lab was instructed to <EXPLANATION_REQUIRED>.
890-4857
SAMPLE #5
COC BH23-02 0' 10:20

JAR
BH-23-03 0'
this is the last jar needing label

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-56485 and analytical batch 880-56500 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-4857-A-6-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-56630 and analytical batch 880-56626 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The laboratory control sample (LCS) for preparation batch 880-56630 and analytical batch 880-56626 recovered outside control limits for the following analytes: Benzene. Since only an acceptable LCS or LCSD is required per the method, the LCSD shows recovery for the batch; therefore, the data have been reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-56542/5-A). Evidence of matrix interferences is not obvious.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH23-02 0' (890-4857-5), BH23-03 2' (890-4857-6), (890-4854-A-7-A), (890-4854-A-7-B MS) and (890-4854-A-7-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Case Narrative

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Job ID: 890-4857-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-56292 and analytical batch 880-56450 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.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-4851-A-12-B), (890-4851-A-12-C MS) and (890-4851-A-12-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH23-01 0' (890-4857-1), BH23-01 2' (890-4857-2) and BH23-02 0' (890-4857-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-56452 recovered below the lower control limit for Diesel Range Organics (Over C10-C28). An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-56452/31).

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-56505 and analytical batch 880-56535 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.

Method 8015MOD_NM: The laboratory control sample duplicate (LCSD) for preparation batch 880-56505 and analytical batch 880-56535 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10. Since only an acceptable LCS is required per the method, the data has been qualified; therefore, the data have been reported.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-56535 recovered below the lower control limit for Diesel Range Organics (Over C10-C28). An acceptable CCV was ran within the 12 hour window; therefore, the data have been reported. The associated sample is impacted: (CCV 880-56535/20).

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-56537/47) and (CCV 880-56537/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH23-01 0' (890-4857-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-01 0'

Lab Sample ID: 890-4857-1
Matrix: Solid
Date Collected: 06/23/23 10:00
Date Received: 06/23/23 15:55
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U *+	0.00198		mg/Kg		06/28/23 09:56	06/28/23 23:44	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/28/23 09:56	06/28/23 23:44	1
Toluene	<0.00198	U *+	0.00198		mg/Kg		06/28/23 09:56	06/28/23 23:44	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		06/28/23 09:56	06/28/23 23:44	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		06/28/23 09:56	06/28/23 23:44	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/28/23 09:56	06/28/23 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*06/28/23 09:56*	*06/28/23 23:44*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/28/23 09:56*	*06/28/23 23:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			06/29/23 10:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**13600**		500		mg/Kg			06/29/23 09:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/26/23 09:18	06/28/23 20:02	1
Diesel Range Organics (Over C10-C28)	**11800**		500		mg/Kg		06/27/23 14:00	06/30/23 11:53	10
Oil Range Organics (Over C28-C36)	**1760**		49.9		mg/Kg		06/26/23 09:18	06/28/23 20:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*153*	*S1+*	*70 - 130*	*06/26/23 09:18*	*06/28/23 20:02*	*1*
o-Terphenyl	*140*	*S1+*	*70 - 130*	*06/26/23 09:18*	*06/28/23 20:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**401**		4.95		mg/Kg			06/27/23 20:54	1

Client Sample ID: BH23-01 2'

Lab Sample ID: 890-4857-2
Matrix: Solid
Date Collected: 06/23/23 10:05
Date Received: 06/23/23 15:55
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199		mg/Kg		06/28/23 09:56	06/29/23 00:05	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/28/23 09:56	06/29/23 00:05	1
Toluene	<0.00199	U *+	0.00199		mg/Kg		06/28/23 09:56	06/29/23 00:05	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/28/23 09:56	06/29/23 00:05	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/28/23 09:56	06/29/23 00:05	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/28/23 09:56	06/29/23 00:05	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-01 2'

Date Collected: 06/23/23 10:05
Date Received: 06/23/23 15:55
Sample Depth: 2

Lab Sample ID: 890-4857-2

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*06/28/23 09:56*	*06/29/23 00:05*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*06/28/23 09:56*	*06/29/23 00:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			06/29/23 10:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**126**		50.0		mg/Kg			06/29/23 09:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/26/23 09:18	06/28/23 19:14	1
Diesel Range Organics (Over C10-C28)	**73.9**		50.0		mg/Kg		06/26/23 09:18	06/28/23 19:14	1
Oil Range Organics (Over C28-C36)	**52.3**		50.0		mg/Kg		06/26/23 09:18	06/28/23 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*06/26/23 09:18*	*06/28/23 19:14*	*1*
o-Terphenyl	*143*	*S1+*	*70 - 130*	*06/26/23 09:18*	*06/28/23 19:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**269**		4.99		mg/Kg			06/27/23 21:00	1

Client Sample ID: BH23-02 0'

Date Collected: 06/23/23 10:10
Date Received: 06/23/23 15:55
Sample Depth: 0

Lab Sample ID: 890-4857-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+	0.00200		mg/Kg		06/28/23 09:56	06/29/23 00:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/29/23 00:25	1
Toluene	<0.00200	U *+	0.00200		mg/Kg		06/28/23 09:56	06/29/23 00:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/28/23 09:56	06/29/23 00:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/28/23 09:56	06/29/23 00:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/29/23 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*06/28/23 09:56*	*06/29/23 00:25*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*06/28/23 09:56*	*06/29/23 00:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			06/29/23 10:04	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-02 0'

Lab Sample ID: 890-4857-3
Matrix: Solid
Date Collected: 06/23/23 10:10
Date Received: 06/23/23 15:55
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**217**		49.8		mg/Kg			06/29/23 09:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		06/26/23 09:18	06/28/23 19:38	1
Diesel Range Organics (Over C10-C28)	**217**		49.8		mg/Kg		06/26/23 09:18	06/28/23 19:38	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/26/23 09:18	06/28/23 19:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*141*	*S1+*	*70 - 130*	*06/26/23 09:18*	*06/28/23 19:38*	*1*
o-Terphenyl	*151*	*S1+*	*70 - 130*	*06/26/23 09:18*	*06/28/23 19:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**711**		4.97		mg/Kg			06/27/23 21:06	1

Client Sample ID: BH23-02 2'

Lab Sample ID: 890-4857-4
Matrix: Solid
Date Collected: 06/23/23 10:15
Date Received: 06/23/23 15:55
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+	0.00200		mg/Kg		06/28/23 09:56	06/29/23 00:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/29/23 00:46	1
Toluene	<0.00200	U *+	0.00200		mg/Kg		06/28/23 09:56	06/29/23 00:46	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/28/23 09:56	06/29/23 00:46	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/28/23 09:56	06/29/23 00:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/29/23 00:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*06/28/23 09:56*	*06/29/23 00:46*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*06/28/23 09:56*	*06/29/23 00:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			06/29/23 10:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			06/29/23 09:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		06/27/23 12:00	06/28/23 16:21	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/27/23 12:00	06/28/23 16:21	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/27/23 12:00	06/28/23 16:21	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-02 2'

Lab Sample ID: 890-4857-4
Matrix: Solid
Date Collected: 06/23/23 10:15
Date Received: 06/23/23 15:55
Sample Depth: 2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*130*		*70 - 130*	*06/27/23 12:00*	*06/28/23 16:21*	*1*
o-Terphenyl	*120*		*70 - 130*	*06/27/23 12:00*	*06/28/23 16:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**471**		4.99		mg/Kg			06/27/23 21:23	1

Client Sample ID: BH23-02 0'

Lab Sample ID: 890-4857-5
Matrix: Solid
Date Collected: 06/23/23 10:20
Date Received: 06/23/23 15:55
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+	0.00200		mg/Kg		06/28/23 09:56	06/29/23 01:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/29/23 01:06	1
Toluene	<0.00200	U *+	0.00200		mg/Kg		06/28/23 09:56	06/29/23 01:06	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/28/23 09:56	06/29/23 01:06	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/28/23 09:56	06/29/23 01:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/29/23 01:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*06/28/23 09:56*	*06/29/23 01:06*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/28/23 09:56*	*06/29/23 01:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			06/29/23 10:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**212**		49.9		mg/Kg			06/29/23 09:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/27/23 12:00	06/28/23 16:45	1
Diesel Range Organics (Over C10-C28)	**212**		49.9		mg/Kg		06/27/23 12:00	06/28/23 16:45	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/27/23 12:00	06/28/23 16:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*173*	*S1+*	*70 - 130*	*06/27/23 12:00*	*06/28/23 16:45*	*1*
o-Terphenyl	*154*	*S1+*	*70 - 130*	*06/27/23 12:00*	*06/28/23 16:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1140**		4.96		mg/Kg			06/27/23 21:29	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-03 2'

Lab Sample ID: 890-4857-6
Matrix: Solid
Date Collected: 06/23/23 10:25
Date Received: 06/23/23 15:55
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *+	0.00202		mg/Kg		06/29/23 14:56	06/30/23 04:06	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		06/29/23 14:56	06/30/23 04:06	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/29/23 14:56	06/30/23 04:06	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		06/29/23 14:56	06/30/23 04:06	1
m-Xylene & p-Xylene	<0.00404	U F1	0.00404		mg/Kg		06/29/23 14:56	06/30/23 04:06	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/29/23 14:56	06/30/23 04:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/29/23 14:56*	*06/30/23 04:06*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*06/29/23 14:56*	*06/30/23 04:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			06/29/23 09:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		06/27/23 12:00	06/28/23 17:09	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/27/23 12:00	06/28/23 17:09	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/27/23 12:00	06/28/23 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*175*	*S1+*	*70 - 130*	*06/27/23 12:00*	*06/28/23 17:09*	*1*
o-Terphenyl	*158*	*S1+*	*70 - 130*	*06/27/23 12:00*	*06/28/23 17:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**289**		5.03		mg/Kg			06/27/23 21:35	1

Client Sample ID: BH23-03 4'

Lab Sample ID: 890-4857-7
Matrix: Solid
Date Collected: 06/23/23 10:30
Date Received: 06/23/23 15:55
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+	0.00200		mg/Kg		06/29/23 14:56	06/30/23 04:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 14:56	06/30/23 04:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/23 14:56	06/30/23 04:26	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/29/23 14:56	06/30/23 04:26	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/29/23 14:56	06/30/23 04:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 14:56	06/30/23 04:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*06/29/23 14:56*	*06/30/23 04:26*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-03 4'

Date Collected: 06/23/23 10:30
Date Received: 06/23/23 15:55
Sample Depth: 4

Lab Sample ID: 890-4857-7

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/29/23 14:56*	*06/30/23 04:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			06/29/23 16:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	50.0		mg/Kg		06/28/23 14:00	06/29/23 12:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 12:04	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 12:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*06/28/23 14:00*	*06/29/23 12:04*	*1*
o-Terphenyl	*96*		*70 - 130*	*06/28/23 14:00*	*06/29/23 12:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**272**		4.98		mg/Kg			06/27/23 21:41	1

Client Sample ID: BH23-04 0'

Date Collected: 06/23/23 10:35
Date Received: 06/23/23 15:55
Sample Depth: 0

Lab Sample ID: 890-4857-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *+	0.00201		mg/Kg		06/29/23 14:56	06/30/23 04:47	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/29/23 14:56	06/30/23 04:47	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/29/23 14:56	06/30/23 04:47	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/29/23 14:56	06/30/23 04:47	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/29/23 14:56	06/30/23 04:47	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/29/23 14:56	06/30/23 04:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*06/29/23 14:56*	*06/30/23 04:47*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*06/29/23 14:56*	*06/30/23 04:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1800**		49.9		mg/Kg			06/29/23 16:35	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-04 0'

Lab Sample ID: 890-4857-8
Matrix: Solid
Date Collected: 06/23/23 10:35
Date Received: 06/23/23 15:55
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+	49.9		mg/Kg		06/28/23 14:00	06/29/23 12:27	1
Diesel Range Organics (Over C10-C28)	**1800**		49.9		mg/Kg		06/28/23 14:00	06/29/23 12:27	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/23 14:00	06/29/23 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*06/28/23 14:00*	*06/29/23 12:27*	*1*
o-Terphenyl	*83*		*70 - 130*	*06/28/23 14:00*	*06/29/23 12:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**163**		5.05		mg/Kg			06/27/23 21:47	1

Client Sample ID: BH23-04 2'

Lab Sample ID: 890-4857-9
Matrix: Solid
Date Collected: 06/23/23 10:40
Date Received: 06/23/23 15:55
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 17:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 17:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 17:21	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/29/23 08:40	06/29/23 17:21	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/29/23 08:40	06/29/23 17:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*06/29/23 08:40*	*06/29/23 17:21*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*06/29/23 08:40*	*06/29/23 17:21*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			06/30/23 15:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**75.4**		50.0		mg/Kg			06/29/23 16:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	50.0		mg/Kg		06/28/23 14:00	06/29/23 12:50	1
Diesel Range Organics (Over C10-C28)	**75.4**		50.0		mg/Kg		06/28/23 14:00	06/29/23 12:50	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 12:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*06/28/23 14:00*	*06/29/23 12:50*	*1*
o-Terphenyl	*99*		*70 - 130*	*06/28/23 14:00*	*06/29/23 12:50*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-04 2'

Lab Sample ID: 890-4857-9
Matrix: Solid
Date Collected: 06/23/23 10:40
Date Received: 06/23/23 15:55
Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**73.7**		5.03		mg/Kg			06/27/23 21:53	1

Client Sample ID: BH23-05 0'

Lab Sample ID: 890-4857-10
Matrix: Solid
Date Collected: 06/23/23 10:45
Date Received: 06/23/23 15:55
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 17:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 17:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 17:42	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/29/23 08:40	06/29/23 17:42	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/29/23 08:40	06/29/23 17:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*06/29/23 08:40*	*06/29/23 17:42*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/29/23 08:40*	*06/29/23 17:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			06/30/23 15:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**735**		50.0		mg/Kg			06/29/23 16:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	50.0		mg/Kg		06/28/23 14:00	06/29/23 10:57	1
Diesel Range Organics (Over C10-C28)	**735**	**F1**	50.0		mg/Kg		06/28/23 14:00	06/29/23 10:57	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 10:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*06/28/23 14:00*	*06/29/23 10:57*	*1*
o-Terphenyl	*88*		*70 - 130*	*06/28/23 14:00*	*06/29/23 10:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2820**		24.9		mg/Kg			06/27/23 22:10	5

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-05 2'

Lab Sample ID: 890-4857-11
Matrix: Solid
Date Collected: 06/23/23 10:50
Date Received: 06/23/23 15:55
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		06/29/23 08:40	06/29/23 18:03	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		06/29/23 08:40	06/29/23 18:03	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/29/23 08:40	06/29/23 18:03	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		06/29/23 08:40	06/29/23 18:03	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		06/29/23 08:40	06/29/23 18:03	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/29/23 08:40	06/29/23 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*06/29/23 08:40*	*06/29/23 18:03*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/29/23 08:40*	*06/29/23 18:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			06/30/23 15:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**59.0**		49.8		mg/Kg			06/29/23 16:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+	49.8		mg/Kg		06/28/23 14:00	06/29/23 13:13	1
Diesel Range Organics (Over C10-C28)	**59.0**		49.8		mg/Kg		06/28/23 14:00	06/29/23 13:13	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/28/23 14:00	06/29/23 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*06/28/23 14:00*	*06/29/23 13:13*	*1*
o-Terphenyl	*100*		*70 - 130*	*06/28/23 14:00*	*06/29/23 13:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**520**		5.00		mg/Kg			06/27/23 22:16	1

Client Sample ID: BH23-06 0'

Lab Sample ID: 890-4857-12
Matrix: Solid
Date Collected: 06/23/23 10:55
Date Received: 06/23/23 15:55
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/29/23 08:40	06/29/23 18:23	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/29/23 08:40	06/29/23 18:23	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/29/23 08:40	06/29/23 18:23	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/29/23 08:40	06/29/23 18:23	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/29/23 08:40	06/29/23 18:23	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/29/23 08:40	06/29/23 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*06/29/23 08:40*	*06/29/23 18:23*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-06 0'

Lab Sample ID: 890-4857-12
Matrix: Solid
Date Collected: 06/23/23 10:55
Date Received: 06/23/23 15:55
Sample Depth: 0

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*06/29/23 08:40*	*06/29/23 18:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/30/23 15:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**3700**		49.9		mg/Kg			06/29/23 16:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+	49.9		mg/Kg		06/28/23 14:00	06/29/23 13:35	1
Diesel Range Organics (Over C10-C28)	**3700**		49.9		mg/Kg		06/28/23 14:00	06/29/23 13:35	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/23 14:00	06/29/23 13:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*06/28/23 14:00*	*06/29/23 13:35*	*1*
o-Terphenyl	*99*		*70 - 130*	*06/28/23 14:00*	*06/29/23 13:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**776**		4.99		mg/Kg			06/27/23 22:33	1

Client Sample ID: BH23-06 2'

Lab Sample ID: 890-4857-13
Matrix: Solid
Date Collected: 06/23/23 11:00
Date Received: 06/23/23 15:55
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:40	06/29/23 18:44	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:40	06/29/23 18:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:40	06/29/23 18:44	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/29/23 08:40	06/29/23 18:44	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/29/23 08:40	06/29/23 18:44	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:40	06/29/23 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*06/29/23 08:40*	*06/29/23 18:44*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/29/23 08:40*	*06/29/23 18:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			06/30/23 15:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**54.4**		50.0		mg/Kg			06/29/23 16:35	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-06 2'

Lab Sample ID: 890-4857-13
Matrix: Solid
Date Collected: 06/23/23 11:00
Date Received: 06/23/23 15:55
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	50.0		mg/Kg		06/28/23 14:00	06/29/23 15:06	1
Diesel Range Organics (Over C10-C28)	**54.4**		50.0		mg/Kg		06/28/23 14:00	06/29/23 15:06	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*06/28/23 14:00*	*06/29/23 15:06*	*1*
o-Terphenyl	*91*		*70 - 130*	*06/28/23 14:00*	*06/29/23 15:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1010**		5.68		mg/Kg			06/27/23 22:39	1

Client Sample ID: BH23-06 4'

Lab Sample ID: 890-4857-14
Matrix: Solid
Date Collected: 06/23/23 11:05
Date Received: 06/23/23 15:55
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 19:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 19:05	1
Toluene	**0.00450**		0.00200		mg/Kg		06/29/23 08:40	06/29/23 19:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/29/23 08:40	06/29/23 19:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/29/23 08:40	06/29/23 19:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*06/29/23 08:40*	*06/29/23 19:05*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*06/29/23 08:40*	*06/29/23 19:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00450**		0.00400		mg/Kg			06/30/23 15:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**177**		50.0		mg/Kg			06/29/23 16:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	50.0		mg/Kg		06/28/23 14:00	06/29/23 15:29	1
Diesel Range Organics (Over C10-C28)	**177**		50.0		mg/Kg		06/28/23 14:00	06/29/23 15:29	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*06/28/23 14:00*	*06/29/23 15:29*	*1*
o-Terphenyl	*89*		*70 - 130*	*06/28/23 14:00*	*06/29/23 15:29*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-06 4'
Date Collected: 06/23/23 11:05
Date Received: 06/23/23 15:55
Sample Depth: 4

Lab Sample ID: 890-4857-14
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	472		4.99		mg/Kg			06/27/23 22:45	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-30094-A-1-A MS	Matrix Spike	112	92
880-30094-A-1-B MSD	Matrix Spike Duplicate	117	92
880-30147-A-1-C MS	Matrix Spike	103	110
880-30147-A-1-D MSD	Matrix Spike Duplicate	104	115
890-4857-1	BH23-01 0'	95	99
890-4857-2	BH23-01 2'	104	94
890-4857-3	BH23-02 0'	109	94
890-4857-4	BH23-02 2'	98	98
890-4857-5	BH23-02 0'	105	97
890-4857-6	BH23-03 2'	102	104
890-4857-6 MS	BH23-03 2'	104	101
890-4857-6 MSD	BH23-03 2'	142 S1+	98
890-4857-7	BH23-03 4'	116	97
890-4857-8	BH23-04 0'	111	104
890-4857-9	BH23-04 2'	77	83
890-4857-10	BH23-05 0'	80	87
890-4857-11	BH23-05 2'	84	87
890-4857-12	BH23-06 0'	95	95
890-4857-13	BH23-06 2'	84	87
890-4857-14	BH23-06 4'	79	81
LCS 880-56485/1-A	Lab Control Sample	109	96
LCS 880-56542/1-A	Lab Control Sample	101	108
LCS 880-56630/1-A	Lab Control Sample	102	101
LCSD 880-56485/2-A	Lab Control Sample Dup	115	96
LCSD 880-56542/2-A	Lab Control Sample Dup	107	113
LCSD 880-56630/2-A	Lab Control Sample Dup	107	93
MB 880-56485/5-A	Method Blank	103	97
MB 880-56542/5-A	Method Blank	68 S1-	99
MB 880-56572/5-A	Method Blank	97	88
MB 880-56630/5-A	Method Blank	99	85

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-30039-A-1-E MS	Matrix Spike	101	98
880-30039-A-1-F MSD	Matrix Spike Duplicate	92	89
890-4851-A-12-C MS	Matrix Spike	279 S1+	297 S1+
890-4851-A-12-D MSD	Matrix Spike Duplicate	277 S1+	297 S1+
890-4854-A-7-B MS	Matrix Spike	199 S1+	141 S1+
890-4854-A-7-C MSD	Matrix Spike Duplicate	204 S1+	141 S1+
890-4857-1	BH23-01 0'	153 S1+	140 S1+
890-4857-2	BH23-01 2'	134 S1+	143 S1+
890-4857-3	BH23-02 0'	141 S1+	151 S1+

Surrogate Summary

Client: Vertex Job ID: 890-4857-1
Project/Site: Carleton SWD SDG: 23E-03626

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
890-4857-4	BH23-02 2'	130	120								
890-4857-5	BH23-02 0'	173 S1+	154 S1+								
890-4857-6	BH23-03 2'	175 S1+	158 S1+								
890-4857-7	BH23-03 4'	110	96								
890-4857-8	BH23-04 0'	102	83								
890-4857-9	BH23-04 2'	114	99								
890-4857-10	BH23-05 0'	104	88								
890-4857-10 MS	BH23-05 0'	105	81								
890-4857-10 MSD	BH23-05 0'	104	80								
890-4857-11	BH23-05 2'	116	100								
890-4857-12	BH23-06 0'	118	99								
890-4857-13	BH23-06 2'	106	91								
890-4857-14	BH23-06 4'	101	89								
LCS 880-56288/2-A	Lab Control Sample	99	110								
LCS 880-56292/2-A	Lab Control Sample	111	99								
LCS 880-56422/2-A	Lab Control Sample	81	90								
LCS 880-56505/2-A	Lab Control Sample	117	102								
LCSD 880-56288/3-A	Lab Control Sample Dup	83	94								
LCSD 880-56292/3-A	Lab Control Sample Dup	104	92								
LCSD 880-56422/3-A	Lab Control Sample Dup	93	105								
LCSD 880-56505/3-A	Lab Control Sample Dup	114	99								
MB 880-56288/1-A	Method Blank	102	112								
MB 880-56292/1-A	Method Blank	124	111								
MB 880-56422/1-A	Method Blank	95	109								
MB 880-56505/1-A	Method Blank	119	108								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-56485/5-A
Matrix: Solid
Analysis Batch: 56500

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56485

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/28/23 16:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/28/23 16:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/28/23 16:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/28/23 09:56	06/28/23 16:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/28/23 09:56	06/28/23 16:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/28/23 09:56	06/28/23 16:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*06/28/23 09:56*	*06/28/23 16:34*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/28/23 09:56*	*06/28/23 16:34*	*1*

Lab Sample ID: LCS 880-56485/1-A
Matrix: Solid
Analysis Batch: 56500

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56485

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1481	*+	mg/Kg		148	70 - 130
Ethylbenzene	0.100	0.1142		mg/Kg		114	70 - 130
Toluene	0.100	0.1355	*+	mg/Kg		136	70 - 130
m-Xylene & p-Xylene	0.200	0.2043		mg/Kg		102	70 - 130
o-Xylene	0.100	0.1066		mg/Kg		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-56485/2-A
Matrix: Solid
Analysis Batch: 56500

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56485

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1552	*+	mg/Kg		155	70 - 130	5	35
Ethylbenzene	0.100	0.1304		mg/Kg		130	70 - 130	13	35
Toluene	0.100	0.1346	*+	mg/Kg		135	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2395		mg/Kg		120	70 - 130	16	35
o-Xylene	0.100	0.1104		mg/Kg		110	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-30094-A-1-A MS
Matrix: Solid
Analysis Batch: 56500

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56485

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U *+	0.101	0.1265		mg/Kg		125	70 - 130
Ethylbenzene	<0.00201	U	0.101	0.1096		mg/Kg		109	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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

Lab Sample ID: 880-30094-A-1-A MS
Matrix: Solid
Analysis Batch: 56500

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56485

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00201	U *+	0.101	0.1289		mg/Kg		128	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.202	0.1927		mg/Kg		95	70 - 130
o-Xylene	<0.00201	U	0.101	0.08603		mg/Kg		85	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-30094-A-1-B MSD
Matrix: Solid
Analysis Batch: 56500

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56485

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U *+	0.100	0.1263		mg/Kg		126	70 - 130	0	35
Ethylbenzene	<0.00201	U	0.100	0.1039		mg/Kg		104	70 - 130	5	35
Toluene	<0.00201	U *+	0.100	0.1276		mg/Kg		127	70 - 130	1	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1912		mg/Kg		95	70 - 130	1	35
o-Xylene	<0.00201	U	0.100	0.08652		mg/Kg		86	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: MB 880-56542/5-A
Matrix: Solid
Analysis Batch: 56541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56542

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 12:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 12:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 12:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/29/23 08:40	06/29/23 12:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/29/23 08:40	06/29/23 12:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:40	06/29/23 12:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*06/29/23 08:40*	*06/29/23 12:06*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/29/23 08:40*	*06/29/23 12:06*	*1*

Lab Sample ID: LCS 880-56542/1-A
Matrix: Solid
Analysis Batch: 56541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56542

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1215		mg/Kg		121	70 - 130
Ethylbenzene	0.100	0.1133		mg/Kg		113	70 - 130
Toluene	0.100	0.1122		mg/Kg		112	70 - 130
m-Xylene & p-Xylene	0.200	0.2384		mg/Kg		119	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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

Lab Sample ID: LCS 880-56542/1-A
Matrix: Solid
Analysis Batch: 56541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56542

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1147		mg/Kg		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-56542/2-A
Matrix: Solid
Analysis Batch: 56541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56542

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1186		mg/Kg		119	70 - 130	2	35
Ethylbenzene			0.100	0.1112		mg/Kg		111	70 - 130	2	35
Toluene			0.100	0.1098		mg/Kg		110	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2328		mg/Kg		116	70 - 130	2	35
o-Xylene			0.100	0.1120		mg/Kg		112	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: 880-30147-A-1-C MS
Matrix: Solid
Analysis Batch: 56541

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56542

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0996	0.1116		mg/Kg		112	70 - 130		
Ethylbenzene	<0.00201	U	0.0996	0.1007		mg/Kg		101	70 - 130		
Toluene	<0.00201	U	0.0996	0.1034		mg/Kg		103	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.199	0.2088		mg/Kg		105	70 - 130		
o-Xylene	<0.00201	U	0.0996	0.1007		mg/Kg		101	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 880-30147-A-1-D MSD
Matrix: Solid
Analysis Batch: 56541

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56542

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.1205		mg/Kg		121	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.0994	0.1038		mg/Kg		104	70 - 130	3	35
Toluene	<0.00201	U	0.0994	0.1069		mg/Kg		107	70 - 130	3	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.2146		mg/Kg		108	70 - 130	3	35
o-Xylene	<0.00201	U	0.0994	0.1036		mg/Kg		104	70 - 130	3	35

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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

Lab Sample ID: 880-30147-A-1-D MSD
Matrix: Solid
Analysis Batch: 56541

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56542

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	115		70 - 130

Lab Sample ID: MB 880-56572/5-A
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56572

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 10:49	06/29/23 16:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	06/29/23 10:49	06/29/23 16:56	1
1,4-Difluorobenzene (Surr)	88		70 - 130	06/29/23 10:49	06/29/23 16:56	1

Lab Sample ID: MB 880-56630/5-A
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56630

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/23 14:56	06/30/23 03:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 14:56	06/30/23 03:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/23 14:56	06/30/23 03:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/29/23 14:56	06/30/23 03:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/29/23 14:56	06/30/23 03:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 14:56	06/30/23 03:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	06/29/23 14:56	06/30/23 03:44	1
1,4-Difluorobenzene (Surr)	85		70 - 130	06/29/23 14:56	06/30/23 03:44	1

Lab Sample ID: LCS 880-56630/1-A
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56630

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1315	*+	mg/Kg		131	70 - 130
Ethylbenzene	0.100	0.1065		mg/Kg		106	70 - 130
Toluene	0.100	0.1282		mg/Kg		128	70 - 130
m-Xylene & p-Xylene	0.200	0.2196		mg/Kg		110	70 - 130
o-Xylene	0.100	0.1065		mg/Kg		107	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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

Lab Sample ID: LCS 880-56630/1-A
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56630

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-56630/2-A
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56630

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1000		mg/Kg		100	70 - 130	27	35
Ethylbenzene			0.100	0.09949		mg/Kg		99	70 - 130	7	35
Toluene			0.100	0.1123		mg/Kg		112	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2142		mg/Kg		107	70 - 130	2	35
o-Xylene			0.100	0.1034		mg/Kg		103	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-4857-6 MS
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: BH23-03 2'
Prep Type: Total/NA
Prep Batch: 56630

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U *+	0.0996	0.1157		mg/Kg		116	70 - 130
Ethylbenzene	<0.00202	U	0.0996	0.09322		mg/Kg		94	70 - 130
Toluene	<0.00202	U	0.0996	0.1146		mg/Kg		115	70 - 130
m-Xylene & p-Xylene	<0.00404	U F1	0.199	0.1900		mg/Kg		95	70 - 130
o-Xylene	<0.00202	U	0.0996	0.09099		mg/Kg		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 890-4857-6 MSD
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: BH23-03 2'
Prep Type: Total/NA
Prep Batch: 56630

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U *+	0.0994	0.1009		mg/Kg		101	70 - 130	14	35
Ethylbenzene	<0.00202	U	0.0994	0.1170		mg/Kg		118	70 - 130	23	35
Toluene	<0.00202	U	0.0994	0.1192		mg/Kg		120	70 - 130	4	35
m-Xylene & p-Xylene	<0.00404	U F1	0.199	0.2606	F1	mg/Kg		131	70 - 130	31	35
o-Xylene	<0.00202	U	0.0994	0.1265		mg/Kg		127	70 - 130	33	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*142*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-56288/1-A
Matrix: Solid
Analysis Batch: 56452

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56288

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/26/23 09:18	06/28/23 08:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/26/23 09:18	06/28/23 08:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/26/23 09:18	06/28/23 08:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*06/26/23 09:18*	*06/28/23 08:41*	*1*
o-Terphenyl	*112*		*70 - 130*	*06/26/23 09:18*	*06/28/23 08:41*	*1*

Lab Sample ID: LCS 880-56288/2-A
Matrix: Solid
Analysis Batch: 56452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56288

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	968.2		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1183		mg/Kg		118	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*110*		*70 - 130*

Lab Sample ID: LCSD 880-56288/3-A
Matrix: Solid
Analysis Batch: 56452

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56288

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	933.6		mg/Kg		93	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	1170		mg/Kg		117	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*83*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

Lab Sample ID: 890-4851-A-12-C MS
Matrix: Solid
Analysis Batch: 56452

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56288

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	997	1415	F1	mg/Kg		140	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	997	1659	F1	mg/Kg		166	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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

Lab Sample ID: 890-4851-A-12-C MS
Matrix: Solid
Analysis Batch: 56452

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56288

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	279	S1+	70 - 130
o-Terphenyl	297	S1+	70 - 130

Lab Sample ID: 890-4851-A-12-D MSD
Matrix: Solid
Analysis Batch: 56452

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56288

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	1442	F1	mg/Kg		142	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1658	F1	mg/Kg		166	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	277	S1+	70 - 130
o-Terphenyl	297	S1+	70 - 130

Lab Sample ID: MB 880-56292/1-A
Matrix: Solid
Analysis Batch: 56450

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56292

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/26/23 09:23	06/28/23 08:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/26/23 09:23	06/28/23 08:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/26/23 09:23	06/28/23 08:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	06/26/23 09:23	06/28/23 08:41	1
o-Terphenyl	111		70 - 130	06/26/23 09:23	06/28/23 08:41	1

Lab Sample ID: LCS 880-56292/2-A
Matrix: Solid
Analysis Batch: 56450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	758.7		mg/Kg		76	70 - 130
Diesel Range Organics (Over C10-C28)	1000	911.4		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	99		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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

Lab Sample ID: LCSD 880-56292/3-A
Matrix: Solid
Analysis Batch: 56450

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56292

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	806.4		mg/Kg		81	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	931.5		mg/Kg		93	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Lab Sample ID: 890-4854-A-7-B MS
Matrix: Solid
Analysis Batch: 56450

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56292

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	998	3026	F1	mg/Kg		303	70 - 130
Diesel Range Organics (Over C10-C28)	379	F1	998	3554	F1	mg/Kg		318	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*199*	*S1+*	*70 - 130*
o-Terphenyl	*141*	*S1+*	*70 - 130*

Lab Sample ID: 890-4854-A-7-C MSD
Matrix: Solid
Analysis Batch: 56450

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56292

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	997	2891	F1	mg/Kg		290	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	379	F1	997	3583	F1	mg/Kg		321	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*204*	*S1+*	*70 - 130*
o-Terphenyl	*141*	*S1+*	*70 - 130*

Lab Sample ID: MB 880-56422/1-A
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56422

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/27/23 14:25	06/29/23 21:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/27/23 14:25	06/29/23 21:29	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/27/23 14:25	06/29/23 21:29	1

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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

Lab Sample ID: MB 880-56422/1-A
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56422

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	06/27/23 14:25	06/29/23 21:29	1
o-Terphenyl	109		70 - 130	06/27/23 14:25	06/29/23 21:29	1

Lab Sample ID: LCS 880-56422/2-A
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56422

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	924.9		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1090		mg/Kg		109	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: LCSD 880-56422/3-A
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56422

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	902.8		mg/Kg		90	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1115		mg/Kg		112	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 880-30039-A-1-E MS
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56422

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	979.6		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1000		mg/Kg		100	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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

Lab Sample ID: 880-30039-A-1-F MSD
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56422

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	930.1		mg/Kg		91	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	903.1		mg/Kg		91	70 - 130	10	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: MB 880-56505/1-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56505

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 08:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 08:22	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 08:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*06/28/23 14:00*	*06/29/23 08:22*	*1*
o-Terphenyl	*108*		*70 - 130*	*06/28/23 14:00*	*06/29/23 08:22*	*1*

Lab Sample ID: LCS 880-56505/2-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56505

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1150		mg/Kg		115	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	968.2		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*102*		*70 - 130*

Lab Sample ID: LCSD 880-56505/3-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56505

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1315	*+	mg/Kg		132	70 - 130	13	20
Diesel Range Organics (Over C10-C28)			1000	1008		mg/Kg		101	70 - 130	4	20

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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

Lab Sample ID: LCSD 880-56505/3-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56505

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 890-4857-10 MS
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: BH23-05 0'
Prep Type: Total/NA
Prep Batch: 56505

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	999	996.5		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	735	F1	999	1002	F1	mg/Kg		27	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	81		70 - 130

Lab Sample ID: 890-4857-10 MSD
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: BH23-05 0'
Prep Type: Total/NA
Prep Batch: 56505

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	999	1013		mg/Kg		101	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	735	F1	999	1052	F1	mg/Kg		32	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	80		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-56386/1-A
Matrix: Solid
Analysis Batch: 56440

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/27/23 20:13	1

Lab Sample ID: LCS 880-56386/2-A
Matrix: Solid
Analysis Batch: 56440

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	244.2		mg/Kg		98	90 - 110

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-56386/3-A
Matrix: Solid
Analysis Batch: 56440

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	244.2		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 890-4857-9 MS
Matrix: Solid
Analysis Batch: 56440

Client Sample ID: BH23-04 2'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	73.7		252	322.6		mg/Kg		99	90 - 110

Lab Sample ID: 890-4857-9 MSD
Matrix: Solid
Analysis Batch: 56440

Client Sample ID: BH23-04 2'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	73.7		252	323.1		mg/Kg		99	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

GC VOA

Prep Batch: 56485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Total/NA	Solid	5035	
890-4857-2	BH23-01 2'	Total/NA	Solid	5035	
890-4857-3	BH23-02 0'	Total/NA	Solid	5035	
890-4857-4	BH23-02 2'	Total/NA	Solid	5035	
890-4857-5	BH23-02 0'	Total/NA	Solid	5035	
MB 880-56485/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56485/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56485/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30094-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-30094-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 56500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Total/NA	Solid	8021B	56485
890-4857-2	BH23-01 2'	Total/NA	Solid	8021B	56485
890-4857-3	BH23-02 0'	Total/NA	Solid	8021B	56485
890-4857-4	BH23-02 2'	Total/NA	Solid	8021B	56485
890-4857-5	BH23-02 0'	Total/NA	Solid	8021B	56485
MB 880-56485/5-A	Method Blank	Total/NA	Solid	8021B	56485
LCS 880-56485/1-A	Lab Control Sample	Total/NA	Solid	8021B	56485
LCSD 880-56485/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56485
880-30094-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	56485
880-30094-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	56485

Analysis Batch: 56541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-9	BH23-04 2'	Total/NA	Solid	8021B	56542
890-4857-10	BH23-05 0'	Total/NA	Solid	8021B	56542
890-4857-11	BH23-05 2'	Total/NA	Solid	8021B	56542
890-4857-12	BH23-06 0'	Total/NA	Solid	8021B	56542
890-4857-13	BH23-06 2'	Total/NA	Solid	8021B	56542
890-4857-14	BH23-06 4'	Total/NA	Solid	8021B	56542
MB 880-56542/5-A	Method Blank	Total/NA	Solid	8021B	56542
LCS 880-56542/1-A	Lab Control Sample	Total/NA	Solid	8021B	56542
LCSD 880-56542/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56542
880-30147-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	56542
880-30147-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	56542

Prep Batch: 56542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-9	BH23-04 2'	Total/NA	Solid	5035	
890-4857-10	BH23-05 0'	Total/NA	Solid	5035	
890-4857-11	BH23-05 2'	Total/NA	Solid	5035	
890-4857-12	BH23-06 0'	Total/NA	Solid	5035	
890-4857-13	BH23-06 2'	Total/NA	Solid	5035	
890-4857-14	BH23-06 4'	Total/NA	Solid	5035	
MB 880-56542/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56542/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56542/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30147-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-30147-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

GC VOA

Analysis Batch: 56568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Total/NA	Solid	Total BTEX	
890-4857-2	BH23-01 2'	Total/NA	Solid	Total BTEX	
890-4857-3	BH23-02 0'	Total/NA	Solid	Total BTEX	
890-4857-4	BH23-02 2'	Total/NA	Solid	Total BTEX	
890-4857-5	BH23-02 0'	Total/NA	Solid	Total BTEX	
890-4857-6	BH23-03 2'	Total/NA	Solid	Total BTEX	
890-4857-7	BH23-03 4'	Total/NA	Solid	Total BTEX	
890-4857-8	BH23-04 0'	Total/NA	Solid	Total BTEX	
890-4857-9	BH23-04 2'	Total/NA	Solid	Total BTEX	
890-4857-10	BH23-05 0'	Total/NA	Solid	Total BTEX	
890-4857-11	BH23-05 2'	Total/NA	Solid	Total BTEX	
890-4857-12	BH23-06 0'	Total/NA	Solid	Total BTEX	
890-4857-13	BH23-06 2'	Total/NA	Solid	Total BTEX	
890-4857-14	BH23-06 4'	Total/NA	Solid	Total BTEX	

Prep Batch: 56572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-56572/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 56626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-6	BH23-03 2'	Total/NA	Solid	8021B	56630
890-4857-7	BH23-03 4'	Total/NA	Solid	8021B	56630
890-4857-8	BH23-04 0'	Total/NA	Solid	8021B	56630
MB 880-56572/5-A	Method Blank	Total/NA	Solid	8021B	56572
MB 880-56630/5-A	Method Blank	Total/NA	Solid	8021B	56630
LCS 880-56630/1-A	Lab Control Sample	Total/NA	Solid	8021B	56630
LCSD 880-56630/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56630
890-4857-6 MS	BH23-03 2'	Total/NA	Solid	8021B	56630
890-4857-6 MSD	BH23-03 2'	Total/NA	Solid	8021B	56630

Prep Batch: 56630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-6	BH23-03 2'	Total/NA	Solid	5035	
890-4857-7	BH23-03 4'	Total/NA	Solid	5035	
890-4857-8	BH23-04 0'	Total/NA	Solid	5035	
MB 880-56630/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56630/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56630/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4857-6 MS	BH23-03 2'	Total/NA	Solid	5035	
890-4857-6 MSD	BH23-03 2'	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 56288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Total/NA	Solid	8015NM Prep	
890-4857-2	BH23-01 2'	Total/NA	Solid	8015NM Prep	
890-4857-3	BH23-02 0'	Total/NA	Solid	8015NM Prep	
MB 880-56288/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56288/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

GC Semi VOA (Continued)

Prep Batch: 56288 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-56288/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4851-A-12-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4851-A-12-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 56292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-4	BH23-02 2'	Total/NA	Solid	8015NM Prep	
890-4857-5	BH23-02 0'	Total/NA	Solid	8015NM Prep	
890-4857-6	BH23-03 2'	Total/NA	Solid	8015NM Prep	
MB 880-56292/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56292/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56292/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4854-A-7-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4854-A-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 56422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Total/NA	Solid	8015NM Prep	
MB 880-56422/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56422/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56422/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-30039-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-30039-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 56450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-4	BH23-02 2'	Total/NA	Solid	8015B NM	56292
890-4857-5	BH23-02 0'	Total/NA	Solid	8015B NM	56292
890-4857-6	BH23-03 2'	Total/NA	Solid	8015B NM	56292
MB 880-56292/1-A	Method Blank	Total/NA	Solid	8015B NM	56292
LCS 880-56292/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56292
LCSD 880-56292/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56292
890-4854-A-7-B MS	Matrix Spike	Total/NA	Solid	8015B NM	56292
890-4854-A-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56292

Analysis Batch: 56452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Total/NA	Solid	8015B NM	56288
890-4857-2	BH23-01 2'	Total/NA	Solid	8015B NM	56288
890-4857-3	BH23-02 0'	Total/NA	Solid	8015B NM	56288
MB 880-56288/1-A	Method Blank	Total/NA	Solid	8015B NM	56288
LCS 880-56288/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56288
LCSD 880-56288/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56288
890-4851-A-12-C MS	Matrix Spike	Total/NA	Solid	8015B NM	56288
890-4851-A-12-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56288

Prep Batch: 56505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-7	BH23-03 4'	Total/NA	Solid	8015NM Prep	
890-4857-8	BH23-04 0'	Total/NA	Solid	8015NM Prep	
890-4857-9	BH23-04 2'	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

GC Semi VOA (Continued)

Prep Batch: 56505 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-10	BH23-05 0'	Total/NA	Solid	8015NM Prep	
890-4857-11	BH23-05 2'	Total/NA	Solid	8015NM Prep	
890-4857-12	BH23-06 0'	Total/NA	Solid	8015NM Prep	
890-4857-13	BH23-06 2'	Total/NA	Solid	8015NM Prep	
890-4857-14	BH23-06 4'	Total/NA	Solid	8015NM Prep	
MB 880-56505/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56505/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56505/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4857-10 MS	BH23-05 0'	Total/NA	Solid	8015NM Prep	
890-4857-10 MSD	BH23-05 0'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 56535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-7	BH23-03 4'	Total/NA	Solid	8015B NM	56505
890-4857-8	BH23-04 0'	Total/NA	Solid	8015B NM	56505
890-4857-9	BH23-04 2'	Total/NA	Solid	8015B NM	56505
890-4857-10	BH23-05 0'	Total/NA	Solid	8015B NM	56505
890-4857-11	BH23-05 2'	Total/NA	Solid	8015B NM	56505
890-4857-12	BH23-06 0'	Total/NA	Solid	8015B NM	56505
890-4857-13	BH23-06 2'	Total/NA	Solid	8015B NM	56505
890-4857-14	BH23-06 4'	Total/NA	Solid	8015B NM	56505
MB 880-56505/1-A	Method Blank	Total/NA	Solid	8015B NM	56505
LCS 880-56505/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56505
LCSD 880-56505/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56505
890-4857-10 MS	BH23-05 0'	Total/NA	Solid	8015B NM	56505
890-4857-10 MSD	BH23-05 0'	Total/NA	Solid	8015B NM	56505

Analysis Batch: 56537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Total/NA	Solid	8015B NM	56422
MB 880-56422/1-A	Method Blank	Total/NA	Solid	8015B NM	56422
LCS 880-56422/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56422
LCSD 880-56422/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56422
880-30039-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	56422
880-30039-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56422

Analysis Batch: 56545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Total/NA	Solid	8015 NM	
890-4857-2	BH23-01 2'	Total/NA	Solid	8015 NM	
890-4857-3	BH23-02 0'	Total/NA	Solid	8015 NM	
890-4857-4	BH23-02 2'	Total/NA	Solid	8015 NM	
890-4857-5	BH23-02 0'	Total/NA	Solid	8015 NM	
890-4857-6	BH23-03 2'	Total/NA	Solid	8015 NM	
890-4857-7	BH23-03 4'	Total/NA	Solid	8015 NM	
890-4857-8	BH23-04 0'	Total/NA	Solid	8015 NM	
890-4857-9	BH23-04 2'	Total/NA	Solid	8015 NM	
890-4857-10	BH23-05 0'	Total/NA	Solid	8015 NM	
890-4857-11	BH23-05 2'	Total/NA	Solid	8015 NM	
890-4857-12	BH23-06 0'	Total/NA	Solid	8015 NM	
890-4857-13	BH23-06 2'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

GC Semi VOA (Continued)

Analysis Batch: 56545 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-14	BH23-06 4'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 56386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Soluble	Solid	DI Leach	
890-4857-2	BH23-01 2'	Soluble	Solid	DI Leach	
890-4857-3	BH23-02 0'	Soluble	Solid	DI Leach	
890-4857-4	BH23-02 2'	Soluble	Solid	DI Leach	
890-4857-5	BH23-02 0'	Soluble	Solid	DI Leach	
890-4857-6	BH23-03 2'	Soluble	Solid	DI Leach	
890-4857-7	BH23-03 4'	Soluble	Solid	DI Leach	
890-4857-8	BH23-04 0'	Soluble	Solid	DI Leach	
890-4857-9	BH23-04 2'	Soluble	Solid	DI Leach	
890-4857-10	BH23-05 0'	Soluble	Solid	DI Leach	
890-4857-11	BH23-05 2'	Soluble	Solid	DI Leach	
890-4857-12	BH23-06 0'	Soluble	Solid	DI Leach	
890-4857-13	BH23-06 2'	Soluble	Solid	DI Leach	
890-4857-14	BH23-06 4'	Soluble	Solid	DI Leach	
MB 880-56386/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-56386/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-56386/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4857-9 MS	BH23-04 2'	Soluble	Solid	DI Leach	
890-4857-9 MSD	BH23-04 2'	Soluble	Solid	DI Leach	

Analysis Batch: 56440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4857-1	BH23-01 0'	Soluble	Solid	300.0	56386
890-4857-2	BH23-01 2'	Soluble	Solid	300.0	56386
890-4857-3	BH23-02 0'	Soluble	Solid	300.0	56386
890-4857-4	BH23-02 2'	Soluble	Solid	300.0	56386
890-4857-5	BH23-02 0'	Soluble	Solid	300.0	56386
890-4857-6	BH23-03 2'	Soluble	Solid	300.0	56386
890-4857-7	BH23-03 4'	Soluble	Solid	300.0	56386
890-4857-8	BH23-04 0'	Soluble	Solid	300.0	56386
890-4857-9	BH23-04 2'	Soluble	Solid	300.0	56386
890-4857-10	BH23-05 0'	Soluble	Solid	300.0	56386
890-4857-11	BH23-05 2'	Soluble	Solid	300.0	56386
890-4857-12	BH23-06 0'	Soluble	Solid	300.0	56386
890-4857-13	BH23-06 2'	Soluble	Solid	300.0	56386
890-4857-14	BH23-06 4'	Soluble	Solid	300.0	56386
MB 880-56386/1-A	Method Blank	Soluble	Solid	300.0	56386
LCS 880-56386/2-A	Lab Control Sample	Soluble	Solid	300.0	56386
LCSD 880-56386/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	56386
890-4857-9 MS	BH23-04 2'	Soluble	Solid	300.0	56386
890-4857-9 MSD	BH23-04 2'	Soluble	Solid	300.0	56386

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-01 0'
Date Collected: 06/23/23 10:00
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	56485	06/28/23 09:56	SM	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56500	06/28/23 23:44	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/29/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56288	06/26/23 09:18	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56452	06/28/23 20:02	SM	EET MID
Total/NA	Prep	8015NM Prep			10.010 g	10 mL	56422	06/27/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		10	1 uL	1 uL	56537	06/30/23 11:53	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 20:54	CH	EET MID

Client Sample ID: BH23-01 2'
Date Collected: 06/23/23 10:05
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	56485	06/28/23 09:56	SM	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56500	06/29/23 00:05	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/29/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	56288	06/26/23 09:18	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56452	06/28/23 19:14	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 21:00	CH	EET MID

Client Sample ID: BH23-02 0'
Date Collected: 06/23/23 10:10
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	56485	06/28/23 09:56	SM	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56500	06/29/23 00:25	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/29/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	56288	06/26/23 09:18	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56452	06/28/23 19:38	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 21:06	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-02 2'
Date Collected: 06/23/23 10:15
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	56485	06/28/23 09:56	SM	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56500	06/29/23 00:46	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/29/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	56292	06/27/23 12:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56450	06/28/23 16:21	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 21:23	CH	EET MID

Client Sample ID: BH23-02 0'
Date Collected: 06/23/23 10:20
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	56485	06/28/23 09:56	SM	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56500	06/29/23 01:06	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/29/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56292	06/27/23 12:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56450	06/28/23 16:45	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 21:29	CH	EET MID

Client Sample ID: BH23-03 2'
Date Collected: 06/23/23 10:25
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	56630	06/29/23 14:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/30/23 04:06	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/30/23 15:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	56292	06/27/23 12:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56450	06/28/23 17:09	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 21:35	CH	EET MID

Client Sample ID: BH23-03 4'
Date Collected: 06/23/23 10:30
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	56630	06/29/23 14:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/30/23 04:26	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/30/23 15:25	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-03 4'
Date Collected: 06/23/23 10:30
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			56545	06/29/23 16:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 12:04	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 21:41	CH	EET MID

Client Sample ID: BH23-04 0'
Date Collected: 06/23/23 10:35
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	56630	06/29/23 14:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/30/23 04:47	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/30/23 15:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 16:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 12:27	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 21:47	CH	EET MID

Client Sample ID: BH23-04 2'
Date Collected: 06/23/23 10:40
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	56542	06/29/23 08:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56541	06/29/23 17:21	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/30/23 15:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 16:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 12:50	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 21:53	CH	EET MID

Client Sample ID: BH23-05 0'
Date Collected: 06/23/23 10:45
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	56542	06/29/23 08:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56541	06/29/23 17:42	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/30/23 15:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 16:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 10:57	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-05 0'
Date Collected: 06/23/23 10:45
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		5			56440	06/27/23 22:10	CH	EET MID

Client Sample ID: BH23-05 2'
Date Collected: 06/23/23 10:50
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	56542	06/29/23 08:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56541	06/29/23 18:03	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/30/23 15:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 16:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 13:13	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 22:16	CH	EET MID

Client Sample ID: BH23-06 0'
Date Collected: 06/23/23 10:55
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	56542	06/29/23 08:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56541	06/29/23 18:23	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/30/23 15:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 16:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 13:35	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 22:33	CH	EET MID

Client Sample ID: BH23-06 2'
Date Collected: 06/23/23 11:00
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	56542	06/29/23 08:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56541	06/29/23 18:44	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/30/23 15:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 16:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 15:06	SM	EET MID
Soluble	Leach	DI Leach			4.399 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 22:39	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Client Sample ID: BH23-06 4'

Date Collected: 06/23/23 11:05
Date Received: 06/23/23 15:55

Lab Sample ID: 890-4857-14

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	56542	06/29/23 08:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56541	06/29/23 19:05	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56568	06/30/23 15:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			56545	06/29/23 16:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 15:29	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56386	06/27/23 09:33	CH	EET MID
Soluble	Analysis	300.0		1			56440	06/27/23 22:45	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

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	T104704400-22-25	06-30-23

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4857-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4857-1	BH23-01 0'	Solid	06/23/23 10:00	06/23/23 15:55	0
890-4857-2	BH23-01 2'	Solid	06/23/23 10:05	06/23/23 15:55	2
890-4857-3	BH23-02 0'	Solid	06/23/23 10:10	06/23/23 15:55	0
890-4857-4	BH23-02 2'	Solid	06/23/23 10:15	06/23/23 15:55	2
890-4857-5	BH23-02 0'	Solid	06/23/23 10:20	06/23/23 15:55	0
890-4857-6	BH23-03 2'	Solid	06/23/23 10:25	06/23/23 15:55	2
890-4857-7	BH23-03 4'	Solid	06/23/23 10:30	06/23/23 15:55	4
890-4857-8	BH23-04 0'	Solid	06/23/23 10:35	06/23/23 15:55	0
890-4857-9	BH23-04 2'	Solid	06/23/23 10:40	06/23/23 15:55	2
890-4857-10	BH23-05 0'	Solid	06/23/23 10:45	06/23/23 15:55	0
890-4857-11	BH23-05 2'	Solid	06/23/23 10:50	06/23/23 15:55	2
890-4857-12	BH23-06 0'	Solid	06/23/23 10:55	06/23/23 15:55	0
890-4857-13	BH23-06 2'	Solid	06/23/23 11:00	06/23/23 15:55	2
890-4857-14	BH23-06 4'	Solid	06/23/23 11:05	06/23/23 15:55	4

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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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	cdixon@vertex.ca analytical@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-103626	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	14.2
Total Containers:		Corrected Temperature:	14.0

ANALYSIS REQUEST

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

890-4857 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH	Cl	Sample Comments
BH23-01 0'	S	6/23/23	10:00					X	X	X	
BH23-01 2'			10:05								
BH23-02 0'			10:10								
BH23-02 2'			10:15								
BH23-02 ~~5~~ 0'			10:20								
BH23-03 2'			10:25								
BH23-03 4'			10:30								
BH23-04 0'			10:35								
BH23-04 2'			~~10:40~~								
BH23-05 0'			10:45					X	X	X	

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 Hunter Klein		6.23.23 1555	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM
Released to Imaging: 3/19/2024 9:29:09 AM
6/30/2023
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6/30/2023

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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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	Cdixon@vertex.ca analytical@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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:		

ANALYSIS REQUEST

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	Grab/Comp	# of Cont	BTEX	TRH	CL	Sample Comments
BH23-05 2'	Soil	6/23/23	10:50				X	X	X	
BH23-06 0'	↓	↓	10:55				↓	↓	↓	
BH23-06 2'			11:00				↓	↓	↓	
BH23-06 4'	↓	↓	11:05				X	X	X	

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 Hunter Klein	Dave Cuff	6.23.23 1555	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4857-1
SDG Number: 23E-03626

Login Number: 4857
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-4857-1
SDG Number: 23E-03626

Login Number: 4857
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 06/27/23 10:29 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	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 7/3/2023 4:18:31 PM

JOB DESCRIPTION

Carelton SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-4866-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

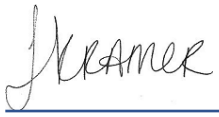
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carelton SWD

Laboratory Job ID: 890-4866-1
SDG: 23E-03626

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Definitions/Glossary

Client: Vertex Job ID: 890-4866-1
Project/Site: Carelton SWD SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

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)

Definitions/Glossary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Job ID: 890-4866-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4866-1

Receipt
The samples were received on 6/26/2023 4:18 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 33.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-07 0' (890-4866-1), BH23-07 2' (890-4866-2), BH23-08 0' (890-4866-3), BH23-08 2' (890-4866-4), BH23-09 0' (890-4866-5), BH23-09 2' (890-4866-6), BH23-09 4' (890-4866-7), BH23-10 0' (890-4866-8), BH23-10 2' (890-4866-9), BH23-11 0' (890-4866-10), BH23-11 2' (890-4866-11), BH23-12 0' (890-4866-12) and BH23-12 2' (890-4866-13).

GC VOA
Method 8021B: The laboratory control sample duplicate (LCSD) for preparation batch 880-56543 and analytical batch 880-56598 recovered outside control limits for the following analytes: Benzene, Ethylbenzene, Toluene and m-Xylene & p-Xylene. Since only an acceptable LCS is required per the method, the data has been qualified and reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH23-08 0' (890-4866-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-56543/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-56543 and analytical batch 880-56598 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-56505 and analytical batch 880-56535 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.

Method 8015MOD_NM: The laboratory control sample duplicate (LCSD) for preparation batch 880-56505 and analytical batch 880-56535 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10. Since only an acceptable LCS is required per the method, the data has been qualified; therefore, the data have been reported.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH23-09 0' (890-4866-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH23-11 2' (890-4866-11) and BH23-12 0' (890-4866-12). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-56535 recovered below the lower control limit for Diesel Range Organics (Over C10-C28). An acceptable CCV was ran within the 12 hour window; therefore, the data have been reported. The associated sample is impacted: (CCV 880-56535/20).

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-56560 and analytical batch 880-56535 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Case Narrative

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Job ID: 890-4866-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-56535 recovered above the upper control limit for Diesel Range Organics (Over C10-C28). An acceptable CCV was ran within the 12 hour window; therefore, the data have been reported. The associated sample is impacted: (CCV 880-56535/47).

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-56537/47) and (CCV 880-56537/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-56773 recovered below the lower control limit for Gasoline Range Organics (GRO)-C6-C10. An acceptable CCV was ran within the 12 hour window therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-56773/31).

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-56819 and analytical batch 880-56814 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH23-09 0' (890-4866-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike (MS) recoveries for preparation batch 880-56819 and analytical batch 880-56814 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery 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

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-56484 and analytical batch 880-56510 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control 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.

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-07 0'

Lab Sample ID: 890-4866-1
Matrix: Solid
Date Collected: 06/26/23 10:00
Date Received: 06/26/23 16:18
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *+	0.00202		mg/Kg		06/29/23 08:45	06/29/23 22:20	1
Ethylbenzene	<0.00202	U *+	0.00202		mg/Kg		06/29/23 08:45	06/29/23 22:20	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/29/23 08:45	06/29/23 22:20	1
Xylenes, Total	<0.00403	U *+	0.00403		mg/Kg		06/29/23 08:45	06/29/23 22:20	1
m-Xylene & p-Xylene	<0.00403	U *+	0.00403		mg/Kg		06/29/23 08:45	06/29/23 22:20	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/29/23 08:45	06/29/23 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*06/29/23 08:45*	*06/29/23 22:20*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*06/29/23 08:45*	*06/29/23 22:20*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			06/30/23 15:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			06/30/23 14:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/27/23 14:00	06/30/23 10:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/27/23 14:00	06/30/23 10:43	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/27/23 14:00	06/30/23 10:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*06/27/23 14:00*	*06/30/23 10:43*	*1*
o-Terphenyl	*95*		*70 - 130*	*06/27/23 14:00*	*06/30/23 10:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**696**		4.99		mg/Kg			06/28/23 16:43	1

Client Sample ID: BH23-07 2'

Lab Sample ID: 890-4866-2
Matrix: Solid
Date Collected: 06/26/23 10:05
Date Received: 06/26/23 16:18
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199		mg/Kg		06/29/23 08:45	06/29/23 22:46	1
Ethylbenzene	<0.00199	U *+	0.00199		mg/Kg		06/29/23 08:45	06/29/23 22:46	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:45	06/29/23 22:46	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		06/29/23 08:45	06/29/23 22:46	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		06/29/23 08:45	06/29/23 22:46	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:45	06/29/23 22:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*06/29/23 08:45*	*06/29/23 22:46*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-07 2'

Lab Sample ID: 890-4866-2
Matrix: Solid
Date Collected: 06/26/23 10:05
Date Received: 06/26/23 16:18
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/29/23 08:45*	*06/29/23 22:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			06/30/23 15:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**145**		49.9		mg/Kg			06/30/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+	49.9		mg/Kg		06/28/23 14:00	06/29/23 17:11	1
Diesel Range Organics (Over C10-C28)	**145**		49.9		mg/Kg		06/28/23 14:00	06/29/23 17:11	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/23 14:00	06/29/23 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*06/28/23 14:00*	*06/29/23 17:11*	*1*
o-Terphenyl	*83*		*70 - 130*	*06/28/23 14:00*	*06/29/23 17:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**357**		5.03		mg/Kg			06/28/23 16:48	1

Client Sample ID: BH23-08 0'

Lab Sample ID: 890-4866-3
Matrix: Solid
Date Collected: 06/26/23 10:10
Date Received: 06/26/23 16:18
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199		mg/Kg		06/29/23 08:45	06/29/23 23:12	1
Ethylbenzene	<0.00199	U *+	0.00199		mg/Kg		06/29/23 08:45	06/29/23 23:12	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:45	06/29/23 23:12	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		06/29/23 08:45	06/29/23 23:12	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		06/29/23 08:45	06/29/23 23:12	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:45	06/29/23 23:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*	*06/29/23 08:45*	*06/29/23 23:12*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*06/29/23 08:45*	*06/29/23 23:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			06/30/23 15:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**3700**		49.8		mg/Kg			06/30/23 10:55	1

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Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-08 0'

Lab Sample ID: 890-4866-3
Matrix: Solid
Date Collected: 06/26/23 10:10
Date Received: 06/26/23 16:18
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+	49.8		mg/Kg		06/28/23 14:00	06/29/23 17:35	1
Diesel Range Organics (Over C10-C28)	**3700**		49.8		mg/Kg		06/28/23 14:00	06/29/23 17:35	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/28/23 14:00	06/29/23 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*06/28/23 14:00*	*06/29/23 17:35*	*1*
o-Terphenyl	*94*		*70 - 130*	*06/28/23 14:00*	*06/29/23 17:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3590**		24.8		mg/Kg			06/28/23 16:53	5

Client Sample ID: BH23-08 2'

Lab Sample ID: 890-4866-4
Matrix: Solid
Date Collected: 06/26/23 10:15
Date Received: 06/26/23 16:18
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *+	0.00201		mg/Kg		06/29/23 08:45	06/29/23 23:38	1
Ethylbenzene	<0.00201	U *+	0.00201		mg/Kg		06/29/23 08:45	06/29/23 23:38	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/29/23 08:45	06/29/23 23:38	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		06/29/23 08:45	06/29/23 23:38	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		06/29/23 08:45	06/29/23 23:38	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/29/23 08:45	06/29/23 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*06/29/23 08:45*	*06/29/23 23:38*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/29/23 08:45*	*06/29/23 23:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/30/23 15:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**166**		49.8		mg/Kg			06/30/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+	49.8		mg/Kg		06/28/23 14:00	06/29/23 17:58	1
Diesel Range Organics (Over C10-C28)	**166**		49.8		mg/Kg		06/28/23 14:00	06/29/23 17:58	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/28/23 14:00	06/29/23 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*06/28/23 14:00*	*06/29/23 17:58*	*1*
o-Terphenyl	*101*		*70 - 130*	*06/28/23 14:00*	*06/29/23 17:58*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-08 2'

Lab Sample ID: 890-4866-4
Matrix: Solid
Date Collected: 06/26/23 10:15
Date Received: 06/26/23 16:18
Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**428**	**F1**	4.95		mg/Kg			06/28/23 16:59	1

Client Sample ID: BH23-09 0'

Lab Sample ID: 890-4866-5
Matrix: Solid
Date Collected: 06/26/23 10:20
Date Received: 06/26/23 16:18
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *+	0.00202		mg/Kg		06/29/23 08:45	06/30/23 00:04	1
Ethylbenzene	<0.00202	U *+	0.00202		mg/Kg		06/29/23 08:45	06/30/23 00:04	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/29/23 08:45	06/30/23 00:04	1
Xylenes, Total	<0.00404	U *+	0.00404		mg/Kg		06/29/23 08:45	06/30/23 00:04	1
m-Xylene & p-Xylene	<0.00404	U *+	0.00404		mg/Kg		06/29/23 08:45	06/30/23 00:04	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/29/23 08:45	06/30/23 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*	*06/29/23 08:45*	*06/30/23 00:04*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*06/29/23 08:45*	*06/30/23 00:04*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			06/30/23 15:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**11900**		249		mg/Kg			06/30/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**56.8**	***+**	50.0		mg/Kg		06/28/23 14:00	06/29/23 18:22	1
Diesel Range Organics (Over C10-C28)	**11800**		249		mg/Kg		07/03/23 08:20	07/03/23 12:27	5
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*06/28/23 14:00*	*06/29/23 18:22*	*1*
o-Terphenyl	*137*	*S1+*	*70 - 130*	*06/28/23 14:00*	*06/29/23 18:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**265**		5.02		mg/Kg			06/28/23 17:14	1

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-09 2'

Lab Sample ID: 890-4866-6
Matrix: Solid
Date Collected: 06/26/23 10:25
Date Received: 06/26/23 16:18
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *+	0.00201		mg/Kg		06/29/23 08:45	06/30/23 00:30	1
Ethylbenzene	<0.00201	U *+	0.00201		mg/Kg		06/29/23 08:45	06/30/23 00:30	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/29/23 08:45	06/30/23 00:30	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		06/29/23 08:45	06/30/23 00:30	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		06/29/23 08:45	06/30/23 00:30	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/29/23 08:45	06/30/23 00:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*06/29/23 08:45*	*06/30/23 00:30*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*06/29/23 08:45*	*06/30/23 00:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/30/23 15:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**257**		49.9		mg/Kg			06/30/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+	49.9		mg/Kg		06/28/23 14:00	06/29/23 18:45	1
Diesel Range Organics (Over C10-C28)	**257**		49.9		mg/Kg		06/28/23 14:00	06/29/23 18:45	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/23 14:00	06/29/23 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*06/28/23 14:00*	*06/29/23 18:45*	*1*
o-Terphenyl	*103*		*70 - 130*	*06/28/23 14:00*	*06/29/23 18:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**185**		4.99		mg/Kg			06/28/23 20:18	1

Client Sample ID: BH23-09 4'

Lab Sample ID: 890-4866-7
Matrix: Solid
Date Collected: 06/26/23 10:30
Date Received: 06/26/23 16:18
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/29/23 10:49	06/29/23 22:12	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/29/23 10:49	06/29/23 22:12	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/29/23 10:49	06/29/23 22:12	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/29/23 10:49	06/29/23 22:12	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/29/23 10:49	06/29/23 22:12	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/29/23 10:49	06/29/23 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/29/23 10:49*	*06/29/23 22:12*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-09 4'

Date Collected: 06/26/23 10:30
Date Received: 06/26/23 16:18
Sample Depth: 0

Lab Sample ID: 890-4866-7

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*06/29/23 10:49*	*06/29/23 22:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**139**		49.9		mg/Kg			06/30/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+	49.9		mg/Kg		06/28/23 14:00	06/29/23 19:09	1
Diesel Range Organics (Over C10-C28)	**139**		49.9		mg/Kg		06/28/23 14:00	06/29/23 19:09	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/23 14:00	06/29/23 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*06/28/23 14:00*	*06/29/23 19:09*	*1*
o-Terphenyl	*86*		*70 - 130*	*06/28/23 14:00*	*06/29/23 19:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**76.3**		4.96		mg/Kg			06/28/23 20:36	1

Client Sample ID: BH23-10 0'

Date Collected: 06/26/23 10:35
Date Received: 06/26/23 16:18
Sample Depth: 2

Lab Sample ID: 890-4866-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/29/23 10:49	06/29/23 22:33	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/29/23 10:49	06/29/23 22:33	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/29/23 10:49	06/29/23 22:33	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		06/29/23 10:49	06/29/23 22:33	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		06/29/23 10:49	06/29/23 22:33	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/29/23 10:49	06/29/23 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*06/29/23 10:49*	*06/29/23 22:33*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*06/29/23 10:49*	*06/29/23 22:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4050**		49.8		mg/Kg			06/30/23 10:55	1

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Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-10 0'

Lab Sample ID: 890-4866-8
Matrix: Solid
Date Collected: 06/26/23 10:35
Date Received: 06/26/23 16:18
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+	49.8		mg/Kg		06/28/23 14:00	06/29/23 19:33	1
Diesel Range Organics (Over C10-C28)	**4050**		49.8		mg/Kg		06/28/23 14:00	06/29/23 19:33	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/28/23 14:00	06/29/23 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*06/28/23 14:00*	*06/29/23 19:33*	*1*
o-Terphenyl	*96*		*70 - 130*	*06/28/23 14:00*	*06/29/23 19:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1520**		25.2		mg/Kg			06/28/23 20:42	5

Client Sample ID: BH23-10 2'

Lab Sample ID: 890-4866-9
Matrix: Solid
Date Collected: 06/26/23 10:40
Date Received: 06/26/23 16:18
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 22:54	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 22:54	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 22:54	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/29/23 10:49	06/29/23 22:54	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/29/23 10:49	06/29/23 22:54	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 22:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*06/29/23 10:49*	*06/29/23 22:54*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*06/29/23 10:49*	*06/29/23 22:54*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**132**		49.8		mg/Kg			06/30/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+	49.8		mg/Kg		06/28/23 14:00	06/29/23 19:56	1
Diesel Range Organics (Over C10-C28)	**132**		49.8		mg/Kg		06/28/23 14:00	06/29/23 19:56	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/28/23 14:00	06/29/23 19:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*06/28/23 14:00*	*06/29/23 19:56*	*1*
o-Terphenyl	*90*		*70 - 130*	*06/28/23 14:00*	*06/29/23 19:56*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-10 2'

Lab Sample ID: 890-4866-9
Matrix: Solid
Date Collected: 06/26/23 10:40
Date Received: 06/26/23 16:18
Sample Depth: 0

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**164**		5.02		mg/Kg			06/28/23 20:47	1

Client Sample ID: BH23-11 0'

Lab Sample ID: 890-4866-10
Matrix: Solid
Date Collected: 06/26/23 10:45
Date Received: 06/26/23 16:18
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 23:15	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 23:15	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 23:15	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/29/23 10:49	06/29/23 23:15	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/29/23 10:49	06/29/23 23:15	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/29/23 10:49*	*06/29/23 23:15*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*06/29/23 10:49*	*06/29/23 23:15*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**9730**		250		mg/Kg			06/30/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	50.0		mg/Kg		06/28/23 14:00	06/29/23 16:26	1
Diesel Range Organics (Over C10-C28)	**9730**		250		mg/Kg		07/02/23 11:21	07/03/23 01:37	5
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*06/28/23 14:00*	*06/29/23 16:26*	*1*
o-Terphenyl	*111*		*70 - 130*	*06/28/23 14:00*	*06/29/23 16:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**796**		5.00		mg/Kg			06/28/23 20:53	1

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-11 2'

Date Collected: 06/26/23 10:50
Date Received: 06/26/23 16:18
Sample Depth: 0

Lab Sample ID: 890-4866-11

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 23:36	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 23:36	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 23:36	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/29/23 10:49	06/29/23 23:36	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/29/23 10:49	06/29/23 23:36	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/29/23 10:49	06/29/23 23:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*06/29/23 10:49*	*06/29/23 23:36*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*06/29/23 10:49*	*06/29/23 23:36*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**113**		49.9		mg/Kg			06/30/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+	49.9		mg/Kg		06/28/23 14:00	06/29/23 20:19	1
Diesel Range Organics (Over C10-C28)	**113**		49.9		mg/Kg		06/28/23 14:00	06/29/23 20:19	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/23 14:00	06/29/23 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*06/28/23 14:00*	*06/29/23 20:19*	*1*
o-Terphenyl	*64*	*S1-*	*70 - 130*	*06/28/23 14:00*	*06/29/23 20:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**558**		4.96		mg/Kg			06/28/23 21:11	1

Client Sample ID: BH23-12 0'

Date Collected: 06/26/23 10:55
Date Received: 06/26/23 16:18
Sample Depth: 2

Lab Sample ID: 890-4866-12

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/29/23 10:49	06/29/23 23:56	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/29/23 10:49	06/29/23 23:56	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/29/23 10:49	06/29/23 23:56	1
Xylenes, Total	**0.0270**		0.00397		mg/Kg		06/29/23 10:49	06/29/23 23:56	1
m-Xylene & p-Xylene	**0.0190**		0.00397		mg/Kg		06/29/23 10:49	06/29/23 23:56	1
o-Xylene	**0.00795**		0.00198		mg/Kg		06/29/23 10:49	06/29/23 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*06/29/23 10:49*	*06/29/23 23:56*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-12 0'

Lab Sample ID: 890-4866-12
Matrix: Solid
Date Collected: 06/26/23 10:55
Date Received: 06/26/23 16:18
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*06/29/23 10:49*	*06/29/23 23:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0270**		0.00397		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**6970**		49.9		mg/Kg			06/30/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**479**	***+**	49.9		mg/Kg		06/28/23 14:00	06/29/23 20:42	1
Diesel Range Organics (Over C10-C28)	**6490**		49.9		mg/Kg		06/28/23 14:00	06/29/23 20:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/23 14:00	06/29/23 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*173*	*S1+*	*70 - 130*	*06/28/23 14:00*	*06/29/23 20:42*	*1*
o-Terphenyl	*100*		*70 - 130*	*06/28/23 14:00*	*06/29/23 20:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3870**		24.9		mg/Kg			06/28/23 21:17	5

Client Sample ID: BH23-12 2'

Lab Sample ID: 890-4866-13
Matrix: Solid
Date Collected: 06/26/23 11:00
Date Received: 06/26/23 16:18
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/29/23 10:49	06/30/23 00:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/29/23 10:49	06/30/23 00:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/29/23 10:49	06/30/23 00:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/29/23 10:49	06/30/23 00:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/29/23 10:49	06/30/23 00:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/29/23 10:49	06/30/23 00:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*06/29/23 10:49*	*06/30/23 00:17*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*06/29/23 10:49*	*06/30/23 00:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			06/30/23 15:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			06/30/23 10:55	1

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-12 2'

Date Collected: 06/26/23 11:00
Date Received: 06/26/23 16:18
Sample Depth: 0

Lab Sample ID: 890-4866-13

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		06/29/23 09:50	06/30/23 08:51	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/29/23 09:50	06/30/23 08:51	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/29/23 09:50	06/30/23 08:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*06/29/23 09:50*	*06/30/23 08:51*	*1*
o-Terphenyl	*97*		*70 - 130*	*06/29/23 09:50*	*06/30/23 08:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**367**		4.98		mg/Kg			06/28/23 21:22	1

Surrogate Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-30148-A-4-C MS	Matrix Spike	106	84
880-30148-A-4-D MSD	Matrix Spike Duplicate	104	88
890-4866-1	BH23-07 0'	129	91
890-4866-2	BH23-07 2'	130	87
890-4866-3	BH23-08 0'	135 S1+	95
890-4866-4	BH23-08 2'	124	97
890-4866-5	BH23-09 0'	123	89
890-4866-6	BH23-09 2'	124	85
890-4866-7	BH23-09 4'	102	112
890-4866-8	BH23-10 0'	98	110
890-4866-9	BH23-10 2'	100	109
890-4866-10	BH23-11 0'	102	110
890-4866-11	BH23-11 2'	98	108
890-4866-12	BH23-12 0'	99	100
890-4866-13	BH23-12 2'	110	110
890-4872-A-1-D MS	Matrix Spike	103	98
890-4872-A-1-E MSD	Matrix Spike Duplicate	100	100
LCS 880-56543/1-A	Lab Control Sample	105	77
LCS 880-56572/1-A	Lab Control Sample	104	98
LCSD 880-56543/2-A	Lab Control Sample Dup	110	99
LCSD 880-56572/2-A	Lab Control Sample Dup	100	106
MB 880-56543/5-A	Method Blank	63 S1-	86
MB 880-56572/5-A	Method Blank	97	88

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-30039-A-1-E MS	Matrix Spike	101	98
880-30039-A-1-F MSD	Matrix Spike Duplicate	92	89
890-4857-A-10-D MS	Matrix Spike	105	81
890-4857-A-10-E MSD	Matrix Spike Duplicate	104	80
890-4866-1	BH23-07 0'	89	95
890-4866-2	BH23-07 2'	94	83
890-4866-3	BH23-08 0'	114	94
890-4866-4	BH23-08 2'	117	101
890-4866-5	BH23-09 0'	118	137 S1+
890-4866-6	BH23-09 2'	121	103
890-4866-7	BH23-09 4'	100	86
890-4866-8	BH23-10 0'	115	96
890-4866-9	BH23-10 2'	104	90
890-4866-10	BH23-11 0'	118	111
890-4866-11	BH23-11 2'	74	64 S1-
890-4866-12	BH23-12 0'	173 S1+	100

Surrogate Summary

Client: Vertex Job ID: 890-4866-1
Project/Site: Carelton SWD SDG: 23E-03626

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
890-4866-13	BH23-12 2'	112	97								
890-4867-A-1-D MS	Matrix Spike	121	92								
890-4867-A-1-E MSD	Matrix Spike Duplicate	113	84								
890-4875-A-2-H MS	Matrix Spike	125	98								
890-4875-A-2-I MSD	Matrix Spike Duplicate	108	85								
LCS 880-56422/2-A	Lab Control Sample	81	90								
LCS 880-56505/2-A	Lab Control Sample	117	102								
LCS 880-56560/2-A	Lab Control Sample	118	102								
LCS 880-56819/2-A	Lab Control Sample	85	73								
LCSD 880-56422/3-A	Lab Control Sample Dup	93	105								
LCSD 880-56505/3-A	Lab Control Sample Dup	114	99								
LCSD 880-56560/3-A	Lab Control Sample Dup	114	103								
LCSD 880-56819/3-A	Lab Control Sample Dup	90	82								
MB 880-56422/1-A	Method Blank	95	109								
MB 880-56505/1-A	Method Blank	119	108								
MB 880-56560/1-A	Method Blank	121	107								
MB 880-56819/1-A	Method Blank	137 S1+	124								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-56543/5-A
Matrix: Solid
Analysis Batch: 56598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56543

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:45	06/29/23 16:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*63*	*S1-*	*70 - 130*	*06/29/23 08:45*	*06/29/23 16:14*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*06/29/23 08:45*	*06/29/23 16:14*	*1*

Lab Sample ID: LCS 880-56543/1-A
Matrix: Solid
Analysis Batch: 56598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56543

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1295		mg/Kg		130	70 - 130		
Ethylbenzene			0.100	0.1208		mg/Kg		121	70 - 130		
Toluene			0.100	0.1263		mg/Kg		126	70 - 130		
m-Xylene & p-Xylene			0.200	0.2347		mg/Kg		117	70 - 130		
o-Xylene			0.100	0.1254		mg/Kg		125	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*

Lab Sample ID: LCSD 880-56543/2-A
Matrix: Solid
Analysis Batch: 56598

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56543

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1391	*+	mg/Kg		139	70 - 130	7	35
Ethylbenzene			0.100	0.1336	*+	mg/Kg		134	70 - 130	10	35
Toluene			0.100	0.1300		mg/Kg		130	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2618	*+	mg/Kg		131	70 - 130	11	35
o-Xylene			0.100	0.1301		mg/Kg		130	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-30148-A-4-C MS
Matrix: Solid
Analysis Batch: 56598

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56543

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U *+	0.0996	0.07271		mg/Kg		73	70 - 130		
Ethylbenzene	<0.00201	U *+ F1	0.0996	0.05772	F1	mg/Kg		58	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

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

Lab Sample ID: 880-30148-A-4-C MS
Matrix: Solid
Analysis Batch: 56598

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56543

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00201	U F1	0.0996	0.06324	F1	mg/Kg		63	70 - 130
m-Xylene & p-Xylene	<0.00402	U *+ F1	0.199	0.1108	F1	mg/Kg		56	70 - 130
o-Xylene	<0.00201	U F1	0.0996	0.05574	F1	mg/Kg		56	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*

Lab Sample ID: 880-30148-A-4-D MSD
Matrix: Solid
Analysis Batch: 56598

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56543

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U *+	0.0994	0.06930		mg/Kg		70	70 - 130	5	35
Ethylbenzene	<0.00201	U *+ F1	0.0994	0.04689	F1	mg/Kg		47	70 - 130	21	35
Toluene	<0.00201	U F1	0.0994	0.05814	F1	mg/Kg		58	70 - 130	8	35
m-Xylene & p-Xylene	<0.00402	U *+ F1	0.199	0.08876	F1	mg/Kg		45	70 - 130	22	35
o-Xylene	<0.00201	U F1	0.0994	0.04332	F1	mg/Kg		44	70 - 130	25	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: MB 880-56572/5-A
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56572

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/29/23 10:49	06/29/23 16:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 10:49	06/29/23 16:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*06/29/23 10:49*	*06/29/23 16:56*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*06/29/23 10:49*	*06/29/23 16:56*	*1*

Lab Sample ID: LCS 880-56572/1-A
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56572

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1181		mg/Kg		118	70 - 130
Ethylbenzene	0.100	0.1095		mg/Kg		109	70 - 130
Toluene	0.100	0.1256		mg/Kg		126	70 - 130
m-Xylene & p-Xylene	0.200	0.2299		mg/Kg		115	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

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

Lab Sample ID: LCS 880-56572/1-A
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56572

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1093		mg/Kg		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-56572/2-A
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56572

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1255		mg/Kg		125	70 - 130	6	35
Ethylbenzene			0.100	0.1008		mg/Kg		101	70 - 130	8	35
Toluene			0.100	0.1198		mg/Kg		120	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2062		mg/Kg		103	70 - 130	11	35
o-Xylene			0.100	0.09945		mg/Kg		99	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-4872-A-1-D MS
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56572

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0992	0.1101		mg/Kg		111	70 - 130		
Ethylbenzene	<0.00199	U	0.0992	0.09887		mg/Kg		100	70 - 130		
Toluene	<0.00199	U	0.0992	0.1138		mg/Kg		115	70 - 130		
m-Xylene & p-Xylene	<0.00398	U	0.198	0.2040		mg/Kg		103	70 - 130		
o-Xylene	<0.00199	U	0.0992	0.09712		mg/Kg		98	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-4872-A-1-E MSD
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56572

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.1107		mg/Kg		110	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.101	0.09342		mg/Kg		93	70 - 130	6	35
Toluene	<0.00199	U	0.101	0.1110		mg/Kg		110	70 - 130	2	35
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1912		mg/Kg		95	70 - 130	6	35
o-Xylene	<0.00199	U	0.101	0.09089		mg/Kg		90	70 - 130	7	35

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

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

Lab Sample ID: 890-4872-A-1-E MSD
Matrix: Solid
Analysis Batch: 56626

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56572

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-56422/1-A
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56422

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/27/23 14:25	06/29/23 21:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/27/23 14:25	06/29/23 21:29	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/27/23 14:25	06/29/23 21:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	06/27/23 14:25	06/29/23 21:29	1
o-Terphenyl	109		70 - 130	06/27/23 14:25	06/29/23 21:29	1

Lab Sample ID: LCS 880-56422/2-A
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56422

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	924.9		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1090		mg/Kg		109	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: LCSD 880-56422/3-A
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56422

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	902.8		mg/Kg		90	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1115		mg/Kg		112	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	105		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

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

Lab Sample ID: 880-30039-A-1-E MS
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56422

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	979.6		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1000		mg/Kg		100	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*98*		*70 - 130*

Lab Sample ID: 880-30039-A-1-F MSD
Matrix: Solid
Analysis Batch: 56537

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56422

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	930.1		mg/Kg		91	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	903.1		mg/Kg		91	70 - 130	10	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: MB 880-56505/1-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56505

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 08:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 08:22	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 14:00	06/29/23 08:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*06/28/23 14:00*	*06/29/23 08:22*	*1*
o-Terphenyl	*108*		*70 - 130*	*06/28/23 14:00*	*06/29/23 08:22*	*1*

Lab Sample ID: LCS 880-56505/2-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56505

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1150		mg/Kg		115	70 - 130
Diesel Range Organics (Over C10-C28)	1000	968.2		mg/Kg		97	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

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

Lab Sample ID: LCS 880-56505/2-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56505

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: LCSD 880-56505/3-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56505

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1315	*+	mg/Kg		132	70 - 130	13	20
Diesel Range Organics (Over C10-C28)			1000	1008		mg/Kg		101	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 890-4857-A-10-D MS
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56505

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	999	996.5		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	735	F1	999	1002	F1	mg/Kg		27	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	81		70 - 130

Lab Sample ID: 890-4857-A-10-E MSD
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56505

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	999	1013		mg/Kg		101	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	735	F1	999	1052	F1	mg/Kg		32	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	80		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

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

Lab Sample ID: MB 880-56560/1-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56560

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/29/23 09:50	06/29/23 21:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/29/23 09:50	06/29/23 21:29	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/29/23 09:50	06/29/23 21:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*06/29/23 09:50*	*06/29/23 21:29*	*1*
o-Terphenyl	*107*		*70 - 130*	*06/29/23 09:50*	*06/29/23 21:29*	*1*

Lab Sample ID: LCS 880-56560/2-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56560

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	780.0		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	1000	893.4		mg/Kg		89	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*118*		*70 - 130*
o-Terphenyl	*102*		*70 - 130*

Lab Sample ID: LCSD 880-56560/3-A
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56560

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	977.3	*1	mg/Kg		98	70 - 130	22	20
Diesel Range Organics (Over C10-C28)	1000	998.4		mg/Kg		100	70 - 130	11	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: 890-4867-A-1-D MS
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56560

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	998	1213		mg/Kg		120	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1109		mg/Kg		109	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

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

Lab Sample ID: 890-4867-A-1-D MS
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56560

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	121		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: 890-4867-A-1-E MSD
Matrix: Solid
Analysis Batch: 56535

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56560

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	997	1081		mg/Kg		107	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1008		mg/Kg		100	70 - 130	9	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	84		70 - 130

Lab Sample ID: MB 880-56819/1-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56819

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/03/23 08:00	07/03/23 08:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/03/23 08:00	07/03/23 08:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/03/23 08:00	07/03/23 08:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	137	S1+	70 - 130	07/03/23 08:00	07/03/23 08:16	1
o-Terphenyl	124		70 - 130	07/03/23 08:00	07/03/23 08:16	1

Lab Sample ID: LCS 880-56819/2-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56819

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	901.2		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	824.2		mg/Kg		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	73		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

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

Lab Sample ID: LCSD 880-56819/3-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56819

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	875.3		mg/Kg		88	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	841.2		mg/Kg		84	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Lab Sample ID: 890-4875-A-2-H MS
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56819

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1010		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	1353	F1	mg/Kg		131	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*125*		*70 - 130*
o-Terphenyl	*98*		*70 - 130*

Lab Sample ID: 890-4875-A-2-I MSD
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56819

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	886.9		mg/Kg		87	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	997	1171		mg/Kg		113	70 - 130	14	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-56479/1-A
Matrix: Solid
Analysis Batch: 56509

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/28/23 20:01	1

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-56479/2-A
Matrix: Solid
Analysis Batch: 56509

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	248.4		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-56479/3-A
Matrix: Solid
Analysis Batch: 56509

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	247.3		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-4866-6 MS
Matrix: Solid
Analysis Batch: 56509

Client Sample ID: BH23-09 2'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	185		250	445.5		mg/Kg		104	90 - 110		

Lab Sample ID: 890-4866-6 MSD
Matrix: Solid
Analysis Batch: 56509

Client Sample ID: BH23-09 2'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	185		250	441.1		mg/Kg		103	90 - 110	1	20

Lab Sample ID: MB 880-56484/1-A
Matrix: Solid
Analysis Batch: 56510

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/28/23 15:31	1

Lab Sample ID: LCS 880-56484/2-A
Matrix: Solid
Analysis Batch: 56510

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.0		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-56484/3-A
Matrix: Solid
Analysis Batch: 56510

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	260.9		mg/Kg		104	90 - 110	2	20

Lab Sample ID: 890-4866-4 MS
Matrix: Solid
Analysis Batch: 56510

Client Sample ID: BH23-08 2'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	428	F1	248	705.1	F1	mg/Kg		112	90 - 110		

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-4866-4 MSD
Matrix: Solid
Analysis Batch: 56510

Client Sample ID: BH23-08 2'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	428	F1	248	674.6		mg/Kg		100	90 - 110	4	20

QC Association Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

GC VOA

Prep Batch: 56543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-1	BH23-07 0'	Total/NA	Solid	5035	
890-4866-2	BH23-07 2'	Total/NA	Solid	5035	
890-4866-3	BH23-08 0'	Total/NA	Solid	5035	
890-4866-4	BH23-08 2'	Total/NA	Solid	5035	
890-4866-5	BH23-09 0'	Total/NA	Solid	5035	
890-4866-6	BH23-09 2'	Total/NA	Solid	5035	
MB 880-56543/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56543/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56543/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30148-A-4-C MS	Matrix Spike	Total/NA	Solid	5035	
880-30148-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 56572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-7	BH23-09 4'	Total/NA	Solid	5035	
890-4866-8	BH23-10 0'	Total/NA	Solid	5035	
890-4866-9	BH23-10 2'	Total/NA	Solid	5035	
890-4866-10	BH23-11 0'	Total/NA	Solid	5035	
890-4866-11	BH23-11 2'	Total/NA	Solid	5035	
890-4866-12	BH23-12 0'	Total/NA	Solid	5035	
890-4866-13	BH23-12 2'	Total/NA	Solid	5035	
MB 880-56572/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56572/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56572/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4872-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-4872-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 56598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-1	BH23-07 0'	Total/NA	Solid	8021B	56543
890-4866-2	BH23-07 2'	Total/NA	Solid	8021B	56543
890-4866-3	BH23-08 0'	Total/NA	Solid	8021B	56543
890-4866-4	BH23-08 2'	Total/NA	Solid	8021B	56543
890-4866-5	BH23-09 0'	Total/NA	Solid	8021B	56543
890-4866-6	BH23-09 2'	Total/NA	Solid	8021B	56543
MB 880-56543/5-A	Method Blank	Total/NA	Solid	8021B	56543
LCS 880-56543/1-A	Lab Control Sample	Total/NA	Solid	8021B	56543
LCSD 880-56543/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56543
880-30148-A-4-C MS	Matrix Spike	Total/NA	Solid	8021B	56543
880-30148-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	56543

Analysis Batch: 56626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-7	BH23-09 4'	Total/NA	Solid	8021B	56572
890-4866-8	BH23-10 0'	Total/NA	Solid	8021B	56572
890-4866-9	BH23-10 2'	Total/NA	Solid	8021B	56572
890-4866-10	BH23-11 0'	Total/NA	Solid	8021B	56572
890-4866-11	BH23-11 2'	Total/NA	Solid	8021B	56572
890-4866-12	BH23-12 0'	Total/NA	Solid	8021B	56572
890-4866-13	BH23-12 2'	Total/NA	Solid	8021B	56572
MB 880-56572/5-A	Method Blank	Total/NA	Solid	8021B	56572

QC Association Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

GC VOA (Continued)

Analysis Batch: 56626 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-56572/1-A	Lab Control Sample	Total/NA	Solid	8021B	56572
LCSD 880-56572/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56572
890-4872-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	56572
890-4872-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	56572

Analysis Batch: 56715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-1	BH23-07 0'	Total/NA	Solid	Total BTEX	
890-4866-2	BH23-07 2'	Total/NA	Solid	Total BTEX	
890-4866-3	BH23-08 0'	Total/NA	Solid	Total BTEX	
890-4866-4	BH23-08 2'	Total/NA	Solid	Total BTEX	
890-4866-5	BH23-09 0'	Total/NA	Solid	Total BTEX	
890-4866-6	BH23-09 2'	Total/NA	Solid	Total BTEX	
890-4866-7	BH23-09 4'	Total/NA	Solid	Total BTEX	
890-4866-8	BH23-10 0'	Total/NA	Solid	Total BTEX	
890-4866-9	BH23-10 2'	Total/NA	Solid	Total BTEX	
890-4866-10	BH23-11 0'	Total/NA	Solid	Total BTEX	
890-4866-11	BH23-11 2'	Total/NA	Solid	Total BTEX	
890-4866-12	BH23-12 0'	Total/NA	Solid	Total BTEX	
890-4866-13	BH23-12 2'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 56422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-1	BH23-07 0'	Total/NA	Solid	8015NM Prep	
MB 880-56422/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56422/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56422/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-30039-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-30039-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 56505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-2	BH23-07 2'	Total/NA	Solid	8015NM Prep	
890-4866-3	BH23-08 0'	Total/NA	Solid	8015NM Prep	
890-4866-4	BH23-08 2'	Total/NA	Solid	8015NM Prep	
890-4866-5	BH23-09 0'	Total/NA	Solid	8015NM Prep	
890-4866-6	BH23-09 2'	Total/NA	Solid	8015NM Prep	
890-4866-7	BH23-09 4'	Total/NA	Solid	8015NM Prep	
890-4866-8	BH23-10 0'	Total/NA	Solid	8015NM Prep	
890-4866-9	BH23-10 2'	Total/NA	Solid	8015NM Prep	
890-4866-10	BH23-11 0'	Total/NA	Solid	8015NM Prep	
890-4866-11	BH23-11 2'	Total/NA	Solid	8015NM Prep	
890-4866-12	BH23-12 0'	Total/NA	Solid	8015NM Prep	
MB 880-56505/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56505/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56505/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4857-A-10-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4857-A-10-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

GC Semi VOA

Analysis Batch: 56535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-2	BH23-07 2'	Total/NA	Solid	8015B NM	56505
890-4866-3	BH23-08 0'	Total/NA	Solid	8015B NM	56505
890-4866-4	BH23-08 2'	Total/NA	Solid	8015B NM	56505
890-4866-5	BH23-09 0'	Total/NA	Solid	8015B NM	56505
890-4866-6	BH23-09 2'	Total/NA	Solid	8015B NM	56505
890-4866-7	BH23-09 4'	Total/NA	Solid	8015B NM	56505
890-4866-8	BH23-10 0'	Total/NA	Solid	8015B NM	56505
890-4866-9	BH23-10 2'	Total/NA	Solid	8015B NM	56505
890-4866-10	BH23-11 0'	Total/NA	Solid	8015B NM	56505
890-4866-11	BH23-11 2'	Total/NA	Solid	8015B NM	56505
890-4866-12	BH23-12 0'	Total/NA	Solid	8015B NM	56505
890-4866-13	BH23-12 2'	Total/NA	Solid	8015B NM	56560
MB 880-56505/1-A	Method Blank	Total/NA	Solid	8015B NM	56505
MB 880-56560/1-A	Method Blank	Total/NA	Solid	8015B NM	56560
LCS 880-56505/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56505
LCS 880-56560/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56560
LCSD 880-56505/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56505
LCSD 880-56560/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56560
890-4857-A-10-D MS	Matrix Spike	Total/NA	Solid	8015B NM	56505
890-4857-A-10-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56505
890-4867-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	56560
890-4867-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56560

Analysis Batch: 56537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-1	BH23-07 0'	Total/NA	Solid	8015B NM	56422
MB 880-56422/1-A	Method Blank	Total/NA	Solid	8015B NM	56422
LCS 880-56422/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56422
LCSD 880-56422/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56422
880-30039-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	56422
880-30039-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56422

Prep Batch: 56560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-13	BH23-12 2'	Total/NA	Solid	8015NM Prep	
MB 880-56560/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56560/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56560/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4867-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4867-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 56675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-1	BH23-07 0'	Total/NA	Solid	8015 NM	
890-4866-2	BH23-07 2'	Total/NA	Solid	8015 NM	
890-4866-3	BH23-08 0'	Total/NA	Solid	8015 NM	
890-4866-4	BH23-08 2'	Total/NA	Solid	8015 NM	
890-4866-5	BH23-09 0'	Total/NA	Solid	8015 NM	
890-4866-6	BH23-09 2'	Total/NA	Solid	8015 NM	
890-4866-7	BH23-09 4'	Total/NA	Solid	8015 NM	
890-4866-8	BH23-10 0'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

GC Semi VOA (Continued)

Analysis Batch: 56675 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-9	BH23-10 2'	Total/NA	Solid	8015 NM	
890-4866-10	BH23-11 0'	Total/NA	Solid	8015 NM	
890-4866-11	BH23-11 2'	Total/NA	Solid	8015 NM	
890-4866-12	BH23-12 0'	Total/NA	Solid	8015 NM	
890-4866-13	BH23-12 2'	Total/NA	Solid	8015 NM	

Analysis Batch: 56773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-10	BH23-11 0'	Total/NA	Solid	8015B NM	56778

Prep Batch: 56778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-10	BH23-11 0'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 56814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-5	BH23-09 0'	Total/NA	Solid	8015B NM	56819
MB 880-56819/1-A	Method Blank	Total/NA	Solid	8015B NM	56819
LCS 880-56819/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56819
LCSD 880-56819/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56819
890-4875-A-2-H MS	Matrix Spike	Total/NA	Solid	8015B NM	56819
890-4875-A-2-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56819

Prep Batch: 56819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-5	BH23-09 0'	Total/NA	Solid	8015NM Prep	
MB 880-56819/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56819/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56819/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4875-A-2-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4875-A-2-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 56479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-6	BH23-09 2'	Soluble	Solid	DI Leach	
890-4866-7	BH23-09 4'	Soluble	Solid	DI Leach	
890-4866-8	BH23-10 0'	Soluble	Solid	DI Leach	
890-4866-9	BH23-10 2'	Soluble	Solid	DI Leach	
890-4866-10	BH23-11 0'	Soluble	Solid	DI Leach	
890-4866-11	BH23-11 2'	Soluble	Solid	DI Leach	
890-4866-12	BH23-12 0'	Soluble	Solid	DI Leach	
890-4866-13	BH23-12 2'	Soluble	Solid	DI Leach	
MB 880-56479/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-56479/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-56479/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4866-6 MS	BH23-09 2'	Soluble	Solid	DI Leach	
890-4866-6 MSD	BH23-09 2'	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

HPLC/IC

Leach Batch: 56484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-1	BH23-07 0'	Soluble	Solid	DI Leach	
890-4866-2	BH23-07 2'	Soluble	Solid	DI Leach	
890-4866-3	BH23-08 0'	Soluble	Solid	DI Leach	
890-4866-4	BH23-08 2'	Soluble	Solid	DI Leach	
890-4866-5	BH23-09 0'	Soluble	Solid	DI Leach	
MB 880-56484/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-56484/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-56484/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4866-4 MS	BH23-08 2'	Soluble	Solid	DI Leach	
890-4866-4 MSD	BH23-08 2'	Soluble	Solid	DI Leach	

Analysis Batch: 56509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-6	BH23-09 2'	Soluble	Solid	300.0	56479
890-4866-7	BH23-09 4'	Soluble	Solid	300.0	56479
890-4866-8	BH23-10 0'	Soluble	Solid	300.0	56479
890-4866-9	BH23-10 2'	Soluble	Solid	300.0	56479
890-4866-10	BH23-11 0'	Soluble	Solid	300.0	56479
890-4866-11	BH23-11 2'	Soluble	Solid	300.0	56479
890-4866-12	BH23-12 0'	Soluble	Solid	300.0	56479
890-4866-13	BH23-12 2'	Soluble	Solid	300.0	56479
MB 880-56479/1-A	Method Blank	Soluble	Solid	300.0	56479
LCS 880-56479/2-A	Lab Control Sample	Soluble	Solid	300.0	56479
LCSD 880-56479/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	56479
890-4866-6 MS	BH23-09 2'	Soluble	Solid	300.0	56479
890-4866-6 MSD	BH23-09 2'	Soluble	Solid	300.0	56479

Analysis Batch: 56510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4866-1	BH23-07 0'	Soluble	Solid	300.0	56484
890-4866-2	BH23-07 2'	Soluble	Solid	300.0	56484
890-4866-3	BH23-08 0'	Soluble	Solid	300.0	56484
890-4866-4	BH23-08 2'	Soluble	Solid	300.0	56484
890-4866-5	BH23-09 0'	Soluble	Solid	300.0	56484
MB 880-56484/1-A	Method Blank	Soluble	Solid	300.0	56484
LCS 880-56484/2-A	Lab Control Sample	Soluble	Solid	300.0	56484
LCSD 880-56484/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	56484
890-4866-4 MS	BH23-08 2'	Soluble	Solid	300.0	56484
890-4866-4 MSD	BH23-08 2'	Soluble	Solid	300.0	56484

Lab Chronicle

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-07 0'
Date Collected: 06/26/23 10:00
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	56543	06/29/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56598	06/29/23 22:20	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 14:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56422	06/27/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56537	06/30/23 10:43	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56484	06/28/23 09:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56510	06/28/23 16:43	CH	EET MID

Client Sample ID: BH23-07 2'
Date Collected: 06/26/23 10:05
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	56543	06/29/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56598	06/29/23 22:46	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 17:11	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	56484	06/28/23 09:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56510	06/28/23 16:48	CH	EET MID

Client Sample ID: BH23-08 0'
Date Collected: 06/26/23 10:10
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	56543	06/29/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56598	06/29/23 23:12	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 17:35	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	56484	06/28/23 09:55	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	56510	06/28/23 16:53	CH	EET MID

Client Sample ID: BH23-08 2'
Date Collected: 06/26/23 10:15
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	56543	06/29/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56598	06/29/23 23:38	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:51	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-08 2'
Date Collected: 06/26/23 10:15
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 17:58	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	56484	06/28/23 09:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56510	06/28/23 16:59	CH	EET MID

Client Sample ID: BH23-09 0'
Date Collected: 06/26/23 10:20
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	56543	06/29/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56598	06/30/23 00:04	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 18:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56819	07/03/23 08:20	AM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	56814	07/03/23 12:27	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	56484	06/28/23 09:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56510	06/28/23 17:14	CH	EET MID

Client Sample ID: BH23-09 2'
Date Collected: 06/26/23 10:25
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	56543	06/29/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56598	06/30/23 00:30	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 18:45	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56479	06/28/23 09:42	KS	EET MID
Soluble	Analysis	300.0		1			56509	06/28/23 20:18	CH	EET MID

Client Sample ID: BH23-09 4'
Date Collected: 06/26/23 10:30
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	56572	06/29/23 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/29/23 22:12	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-09 4'
Date Collected: 06/26/23 10:30
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 19:09	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	56479	06/28/23 09:42	KS	EET MID
Soluble	Analysis	300.0		1			56509	06/28/23 20:36	CH	EET MID

Client Sample ID: BH23-10 0'
Date Collected: 06/26/23 10:35
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	56572	06/29/23 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/29/23 22:33	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 19:33	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	56479	06/28/23 09:42	KS	EET MID
Soluble	Analysis	300.0		5			56509	06/28/23 20:42	CH	EET MID

Client Sample ID: BH23-10 2'
Date Collected: 06/26/23 10:40
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	56572	06/29/23 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/29/23 22:54	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 19:56	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	56479	06/28/23 09:42	KS	EET MID
Soluble	Analysis	300.0		1			56509	06/28/23 20:47	CH	EET MID

Client Sample ID: BH23-11 0'
Date Collected: 06/26/23 10:45
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	56572	06/29/23 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/29/23 23:15	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56778	07/02/23 11:21	AJ	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	56773	07/03/23 01:37	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-11 0'
Date Collected: 06/26/23 10:45
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 16:26	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	56479	06/28/23 09:42	KS	EET MID
Soluble	Analysis	300.0		1			56509	06/28/23 20:53	CH	EET MID

Client Sample ID: BH23-11 2'
Date Collected: 06/26/23 10:50
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	56572	06/29/23 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/29/23 23:36	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 20:19	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	56479	06/28/23 09:42	KS	EET MID
Soluble	Analysis	300.0		1			56509	06/28/23 21:11	CH	EET MID

Client Sample ID: BH23-12 0'
Date Collected: 06/26/23 10:55
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	56572	06/29/23 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/29/23 23:56	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56505	06/28/23 14:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/29/23 20:42	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	56479	06/28/23 09:42	KS	EET MID
Soluble	Analysis	300.0		5			56509	06/28/23 21:17	CH	EET MID

Client Sample ID: BH23-12 2'
Date Collected: 06/26/23 11:00
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	56572	06/29/23 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56626	06/30/23 00:17	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56715	06/30/23 15:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			56675	06/30/23 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	56560	06/29/23 09:50	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56535	06/30/23 08:51	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Client Sample ID: BH23-12 2'

Date Collected: 06/26/23 11:00
Date Received: 06/26/23 16:18

Lab Sample ID: 890-4866-13

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	56479	06/28/23 09:42	KS	EET MID
Soluble	Analysis	300.0		1			56509	06/28/23 21:22	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4866-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4866-1	BH23-07 0'	Solid	06/26/23 10:00	06/26/23 16:18	0
890-4866-2	BH23-07 2'	Solid	06/26/23 10:05	06/26/23 16:18	2
890-4866-3	BH23-08 0'	Solid	06/26/23 10:10	06/26/23 16:18	0
890-4866-4	BH23-08 2'	Solid	06/26/23 10:15	06/26/23 16:18	2
890-4866-5	BH23-09 0'	Solid	06/26/23 10:20	06/26/23 16:18	0
890-4866-6	BH23-09 2'	Solid	06/26/23 10:25	06/26/23 16:18	2
890-4866-7	BH23-09 4'	Solid	06/26/23 10:30	06/26/23 16:18	0
890-4866-8	BH23-10 0'	Solid	06/26/23 10:35	06/26/23 16:18	2
890-4866-9	BH23-10 2'	Solid	06/26/23 10:40	06/26/23 16:18	0
890-4866-10	BH23-11 0'	Solid	06/26/23 10:45	06/26/23 16:18	2
890-4866-11	BH23-11 2'	Solid	06/26/23 10:50	06/26/23 16:18	0
890-4866-12	BH23-12 0'	Solid	06/26/23 10:55	06/26/23 16:18	2
890-4866-13	BH23-12 2'	Solid	06/26/23 11:00	06/26/23 16:18	0

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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

Work Order No: _____

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Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	analytical@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	☒ Routine ☐ Rush
Project Number:	23E-03626	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Hunter Klein		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TWM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	33.6
Total Containers:		Corrected Temperature:	33.4

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	Grab/ Comp	# of Cont	Pres. Code	TPH	BTEX	Cl	Sample Comments
BH23-07 0'	Soil	6/26/23	10:00					X	X	X	
BH23-07 2'			10:05								
BH23-08 0'			10:10								
BH23-08 2'			10:15								
BH23-09 0'			10:20								
BH23-09 2'			10:25								
BH23-09 4'			10:30								
BH23-10 0'			10:35								
BH23-10 2'			10:40								
BH23-11 0'			10:45					X	X	X	

890-4866 Chain of Custody

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 Hunter Klein	Joe Wp	6-26-23 1617	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 10/13/2023 12:00:18 AM

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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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	analytical@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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_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	Grab/ Comp	# of Cont	Pres. Code	Parameters: TPH	BTEX	Cl	Sample Comments
BH23-11 2'	Soil	6/26/23	10:50					X	X	X	
BH23-12 0'			10:55					X	X	X	
BH23-12 2'			11:00					X	X	X	

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	Hunter Klein	Ace Cup	6-27-23 1615			
3				4		
5				6		

Revised Date: 08/25/2020 Rev: 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

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7/3/2023

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Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

7/3/2023

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-1346 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-4866-1
Address: 1211 W Florida Ave	Due Date Requested: 6/30/2023			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701	PO #:			
Phone: 432-704-5440(Tel)	WO #:			
Email	Project #: 89000162			
Project Name: Carelton SWD	SSOW#:			
Site				

Preservation Codes

A HCL	M Hexane
B - NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V MCAA
K EDTA	W pH 4-5
L EDA	Y Trizma
	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
BH23-07 0' (890-4866-1)	6/26/23	10 00 Mountain		Solid			X	X	X	X	X	1	
BH23-07 2' (890-4866-2)	6/26/23	10 05 Mountain		Solid			X	X	X	X	X	1	
BH23-08 0' (890-4866-3)	6/26/23	10 10 Mountain		Solid			X	X	X	X	X	1	
BH23-08 2' (890-4866-4)	6/26/23	10 15 Mountain		Solid			X	X	X	X	X	1	
BH23-09 0' (890-4866-5)	6/26/23	10 20 Mountain		Solid			X	X	X	X	X	1	
BH23-09 2' (890-4866-6)	6/26/23	10 25 Mountain		Solid			X	X	X	X	X	1	
BH23-09 4' (890-4866-7)	6/26/23	10 30 Mountain		Solid			X	X	X	X	X	1	
BH23-10 0' (890-4866-8)	6/26/23	10 35 Mountain		Solid			X	X	X	X	X	1	
BH23-10 2' (890-4866-9)	6/26/23	10 40 Mountain		Solid			X	X	X	X	X	1	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing South Central LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Cloe					
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:
		2.3/2.0

Ver: 06/08/2021

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Received by OCD: 10/13/2023 12:00:18 AM

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Eurofins Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone. 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

7/3/2023

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-1346 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 2 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-4866-1
Address: 1211 W Florida Ave ,	Due Date Requested: 6/30/2023			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Carelton SWD	Project #: 89000162			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I - Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P - Na2O4S, Q Na2SO3, R - Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note
			Preservation Code:										
BH23-11 0' (890-4866-10)	6/26/23	10 45 Mountain		Solid			X	X	X	X	X	1	
BH23-11 2' (890-4866-11)	6/26/23	10 50 Mountain		Solid			X	X	X	X	X	1	
BH23-12 0' (890-4866-12)	6/26/23	10 55 Mountain		Solid			X	X	X	X	X	1	
BH23-12 2' (890-4866-13)	6/26/23	11 00 Mountain		Solid			X	X	X	X	X	1	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing South Central LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time.	Method of Shipment:		
Relinquished by: Cira	Date/Time:	Company	Received by: JKramer	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

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Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4866-1
SDG Number: 23E-03626

Login Number: 4866
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-4866-1
SDG Number: 23E-03626

Login Number: 4866
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 06/28/23 10:43 AM

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.	True	
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	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 7/10/2023 2:45:00 PM Revision 1

JOB DESCRIPTION

CARLETON SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-4878-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

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my EOL

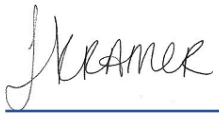
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Revision 1

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: CARLETON SWD

Laboratory Job ID: 890-4878-1
SDG: 23E-03626

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Definitions/Glossary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

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/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Job ID: 890-4878-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4878-1

REVISION

The report being provided is a revision of the original report sent on 7/5/2023. The report (revision 1) is being revised due to Per lab samples 5 and 6 need to be re ran for TPH 8015.

Receipt
The samples were received on 6/28/2023 3:37 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 15.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-19 0' (890-4878-1), BH23-19 2' (890-4878-2), BH23-20 0' (890-4878-3), BH23-20 2' (890-4878-4), BH23-21 0' (890-4878-5) and BH23-21 2' (890-4878-6).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-30229-A-1-A MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-19 0' (890-4878-1), BH23-19 2' (890-4878-2) and BH23-20 0' (890-4878-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCS 880-56726/1-A). Evidence of matrix interferences is not obvious.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-56726 and analytical batch 880-56652 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-56819 and analytical batch 880-56814 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike (MS) recoveries for preparation batch 880-56819 and analytical batch 880-56814 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-57053/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-57053/31). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-56785 and analytical batch 880-57053 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.

Case Narrative

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Job ID: 890-4878-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Client Sample ID: BH23-19 0'
Date Collected: 06/28/23 10:00
Date Received: 06/28/23 15:37
Sample Depth: 0

Lab Sample ID: 890-4878-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/30/23 12:25	07/01/23 12:05	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/30/23 12:25	07/01/23 12:05	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/30/23 12:25	07/01/23 12:05	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/30/23 12:25	07/01/23 12:05	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/30/23 12:25	07/01/23 12:05	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/30/23 12:25	07/01/23 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*06/30/23 12:25*	*07/01/23 12:05*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*06/30/23 12:25*	*07/01/23 12:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/03/23 01:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/03/23 16:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/03/23 08:20	07/03/23 13:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/03/23 08:20	07/03/23 13:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/03/23 08:20	07/03/23 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*07/03/23 08:20*	*07/03/23 13:57*	*1*
o-Terphenyl	*102*		*70 - 130*	*07/03/23 08:20*	*07/03/23 13:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**52.9**		4.98		mg/Kg			07/01/23 15:46	1

Client Sample ID: BH23-19 2'
Date Collected: 06/28/23 10:05
Date Received: 06/28/23 15:37
Sample Depth: 2

Lab Sample ID: 890-4878-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/30/23 12:25	07/01/23 12:31	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/30/23 12:25	07/01/23 12:31	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/30/23 12:25	07/01/23 12:31	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		06/30/23 12:25	07/01/23 12:31	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		06/30/23 12:25	07/01/23 12:31	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/30/23 12:25	07/01/23 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*140*	*S1+*	*70 - 130*	*06/30/23 12:25*	*07/01/23 12:31*	*1*

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Client Sample ID: BH23-19 2'
Date Collected: 06/28/23 10:05
Date Received: 06/28/23 15:37
Sample Depth: 2

Lab Sample ID: 890-4878-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*06/30/23 12:25*	*07/01/23 12:31*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			07/03/23 01:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			07/03/23 16:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		07/03/23 08:20	07/03/23 14:20	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/03/23 08:20	07/03/23 14:20	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/03/23 08:20	07/03/23 14:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*07/03/23 08:20*	*07/03/23 14:20*	*1*
o-Terphenyl	*102*		*70 - 130*	*07/03/23 08:20*	*07/03/23 14:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**61.6**		5.00		mg/Kg			07/01/23 16:03	1

Client Sample ID: BH23-20 0'
Date Collected: 06/28/23 10:10
Date Received: 06/28/23 15:37
Sample Depth: 0

Lab Sample ID: 890-4878-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/30/23 12:25	07/01/23 12:57	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/30/23 12:25	07/01/23 12:57	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/30/23 12:25	07/01/23 12:57	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/30/23 12:25	07/01/23 12:57	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/30/23 12:25	07/01/23 12:57	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/30/23 12:25	07/01/23 12:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*139*	*S1+*	*70 - 130*	*06/30/23 12:25*	*07/01/23 12:57*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*06/30/23 12:25*	*07/01/23 12:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			07/03/23 01:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/03/23 16:42	1

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Client Sample ID: BH23-20 0'
Date Collected: 06/28/23 10:10
Date Received: 06/28/23 15:37
Sample Depth: 0

Lab Sample ID: 890-4878-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/03/23 08:20	07/03/23 14:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/03/23 08:20	07/03/23 14:43	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/03/23 08:20	07/03/23 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*07/03/23 08:20*	*07/03/23 14:43*	*1*
o-Terphenyl	*109*		*70 - 130*	*07/03/23 08:20*	*07/03/23 14:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**51.1**		4.99		mg/Kg			07/01/23 16:09	1

Client Sample ID: BH23-20 2'
Date Collected: 06/28/23 10:15
Date Received: 06/28/23 15:37
Sample Depth: 2

Lab Sample ID: 890-4878-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+	0.00200		mg/Kg		06/30/23 15:48	07/01/23 04:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/23 15:48	07/01/23 04:03	1
Toluene	<0.00200	U *+	0.00200		mg/Kg		06/30/23 15:48	07/01/23 04:03	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/30/23 15:48	07/01/23 04:03	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/30/23 15:48	07/01/23 04:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/23 15:48	07/01/23 04:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*06/30/23 15:48*	*07/01/23 04:03*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*06/30/23 15:48*	*07/01/23 04:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/03/23 12:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			07/03/23 16:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		07/03/23 08:20	07/03/23 15:06	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/03/23 08:20	07/03/23 15:06	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/03/23 08:20	07/03/23 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*07/03/23 08:20*	*07/03/23 15:06*	*1*
o-Terphenyl	*100*		*70 - 130*	*07/03/23 08:20*	*07/03/23 15:06*	*1*

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Client Sample ID: BH23-20 2'
Date Collected: 06/28/23 10:15
Date Received: 06/28/23 15:37
Sample Depth: 2

Lab Sample ID: 890-4878-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	38.6		5.02		mg/Kg			07/01/23 16:15	1

Client Sample ID: BH23-21 0'
Date Collected: 06/28/23 10:20
Date Received: 06/28/23 15:37
Sample Depth: 0

Lab Sample ID: 890-4878-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *+	0.00202		mg/Kg		06/30/23 15:48	07/01/23 04:24	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		06/30/23 15:48	07/01/23 04:24	1
Toluene	<0.00202	U *+	0.00202		mg/Kg		06/30/23 15:48	07/01/23 04:24	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		06/30/23 15:48	07/01/23 04:24	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		06/30/23 15:48	07/01/23 04:24	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/30/23 15:48	07/01/23 04:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*06/30/23 15:48*	*07/01/23 04:24*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*06/30/23 15:48*	*07/01/23 04:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/03/23 12:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			07/05/23 11:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		07/02/23 12:25	07/07/23 07:33	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/02/23 12:25	07/07/23 07:33	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/02/23 12:25	07/07/23 07:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*07/02/23 12:25*	*07/07/23 07:33*	*1*
o-Terphenyl	*94*		*70 - 130*	*07/02/23 12:25*	*07/07/23 07:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66.1		5.03		mg/Kg			07/01/23 16:21	1

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Client Sample ID: BH23-21 2'
Date Collected: 06/28/23 10:25
Date Received: 06/28/23 15:37
Sample Depth: 2

Lab Sample ID: 890-4878-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+	0.00200		mg/Kg		06/30/23 15:48	07/01/23 04:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/23 15:48	07/01/23 04:44	1
Toluene	<0.00200	U *+	0.00200		mg/Kg		06/30/23 15:48	07/01/23 04:44	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/30/23 15:48	07/01/23 04:44	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/30/23 15:48	07/01/23 04:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/23 15:48	07/01/23 04:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*06/30/23 15:48*	*07/01/23 04:44*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*06/30/23 15:48*	*07/01/23 04:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/03/23 12:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/05/23 11:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/02/23 12:25	07/07/23 07:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/02/23 12:25	07/07/23 07:55	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/02/23 12:25	07/07/23 07:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*07/02/23 12:25*	*07/07/23 07:55*	*1*
o-Terphenyl	*104*		*70 - 130*	*07/02/23 12:25*	*07/07/23 07:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**95.1**		4.97		mg/Kg			07/01/23 16:38	1

Surrogate Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-30229-A-1-A MS	Matrix Spike	137 S1+	108
880-30229-A-1-B MSD	Matrix Spike Duplicate	122	83
890-4878-1	BH23-19 0'	137 S1+	89
890-4878-2	BH23-19 2'	140 S1+	90
890-4878-3	BH23-20 0'	139 S1+	84
890-4878-4	BH23-20 2'	99	88
890-4878-4 MS	BH23-20 2'	111	86
890-4878-4 MSD	BH23-20 2'	114	100
890-4878-5	BH23-21 0'	98	93
890-4878-6	BH23-21 2'	98	96
LCS 880-56697/1-A	Lab Control Sample	109	84
LCS 880-56726/1-A	Lab Control Sample	131 S1+	91
LCSD 880-56697/2-A	Lab Control Sample Dup	116	80
LCSD 880-56726/2-A	Lab Control Sample Dup	120	88
MB 880-56653/5-A	Method Blank	102	105
MB 880-56654/5-A	Method Blank	71	87
MB 880-56697/5-A	Method Blank	75	80
MB 880-56726/5-A	Method Blank	110	91

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4875-A-2-H MS	Matrix Spike	125	98
890-4875-A-2-I MSD	Matrix Spike Duplicate	108	85
890-4878-1	BH23-19 0'	118	102
890-4878-2	BH23-19 2'	117	102
890-4878-3	BH23-20 0'	125	109
890-4878-4	BH23-20 2'	114	100
890-4878-5	BH23-21 0'	91	94
890-4878-6	BH23-21 2'	102	104
890-4879-A-1-F MS	Matrix Spike	91	86
890-4879-A-1-G MSD	Matrix Spike Duplicate	89	84
LCS 880-56785/2-A	Lab Control Sample	88	97
LCS 880-56819/2-A	Lab Control Sample	85	73
LCSD 880-56785/3-A	Lab Control Sample Dup	84	95
LCSD 880-56819/3-A	Lab Control Sample Dup	90	82
MB 880-56785/1-A	Method Blank	119	130
MB 880-56819/1-A	Method Blank	137 S1+	124

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-56653/5-A
Matrix: Solid
Analysis Batch: 56652

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:28	06/30/23 14:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:28	06/30/23 14:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:28	06/30/23 14:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/30/23 08:28	06/30/23 14:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/30/23 08:28	06/30/23 14:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:28	06/30/23 14:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/30/23 08:28*	*06/30/23 14:40*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*06/30/23 08:28*	*06/30/23 14:40*	*1*

Lab Sample ID: MB 880-56654/5-A
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56654

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*06/30/23 08:34*	*06/30/23 12:27*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/30/23 08:34*	*06/30/23 12:27*	*1*

Lab Sample ID: MB 880-56697/5-A
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56697

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/30/23 12:25	07/01/23 02:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/23 12:25	07/01/23 02:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/30/23 12:25	07/01/23 02:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/30/23 12:25	07/01/23 02:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/30/23 12:25	07/01/23 02:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/23 12:25	07/01/23 02:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*06/30/23 12:25*	*07/01/23 02:53*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*06/30/23 12:25*	*07/01/23 02:53*	*1*

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

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

Lab Sample ID: LCS 880-56697/1-A
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56697

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1055		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1006		mg/Kg		101	70 - 130		
Toluene			0.100	0.1035		mg/Kg		104	70 - 130		
m-Xylene & p-Xylene			0.200	0.1958		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.1026		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*

Lab Sample ID: LCSD 880-56697/2-A
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56697

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1244		mg/Kg		124	70 - 130	16	35
Ethylbenzene			0.100	0.1189		mg/Kg		119	70 - 130	17	35
Toluene			0.100	0.1184		mg/Kg		118	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2332		mg/Kg		117	70 - 130	17	35
o-Xylene			0.100	0.1185		mg/Kg		118	70 - 130	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*

Lab Sample ID: 880-30229-A-1-A MS
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56697

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0996	0.1250		mg/Kg		125	70 - 130		
Ethylbenzene	<0.00202	U	0.0996	0.1138		mg/Kg		114	70 - 130		
Toluene	<0.00202	U	0.0996	0.1209		mg/Kg		121	70 - 130		
m-Xylene & p-Xylene	<0.00403	U	0.199	0.2210		mg/Kg		111	70 - 130		
o-Xylene	<0.00202	U	0.0996	0.1148		mg/Kg		115	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 880-30229-A-1-B MSD
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56697

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0990	0.1225		mg/Kg		124	70 - 130	2	35
Ethylbenzene	<0.00202	U	0.0990	0.1165		mg/Kg		118	70 - 130	2	35
Toluene	<0.00202	U	0.0990	0.1183		mg/Kg		119	70 - 130	2	35

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

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

Lab Sample ID: 880-30229-A-1-B MSD
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56697

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Xylene & p-Xylene	<0.00403	U	0.198	0.2273		mg/Kg		115	70 - 130	3	35
o-Xylene	<0.00202	U	0.0990	0.1150		mg/Kg		116	70 - 130	0	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*

Lab Sample ID: MB 880-56726/5-A
Matrix: Solid
Analysis Batch: 56652

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56726

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/30/23 15:48	07/01/23 03:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/23 15:48	07/01/23 03:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/30/23 15:48	07/01/23 03:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/30/23 15:48	07/01/23 03:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/30/23 15:48	07/01/23 03:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/23 15:48	07/01/23 03:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*06/30/23 15:48*	*07/01/23 03:35*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*06/30/23 15:48*	*07/01/23 03:35*	*1*

Lab Sample ID: LCS 880-56726/1-A
Matrix: Solid
Analysis Batch: 56652

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56726

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1355	*+	mg/Kg		136	70 - 130
Ethylbenzene	0.100	0.1277		mg/Kg		128	70 - 130
Toluene	0.100	0.1345	*+	mg/Kg		135	70 - 130
m-Xylene & p-Xylene	0.200	0.2468		mg/Kg		123	70 - 130
o-Xylene	0.100	0.1163		mg/Kg		116	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: LCSD 880-56726/2-A
Matrix: Solid
Analysis Batch: 56652

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56726

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1324	*+	mg/Kg		132	70 - 130	2	35
Ethylbenzene	0.100	0.1233		mg/Kg		123	70 - 130	3	35
Toluene	0.100	0.1369	*+	mg/Kg		137	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.2352		mg/Kg		118	70 - 130	5	35
o-Xylene	0.100	0.1103		mg/Kg		110	70 - 130	5	35

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	120		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

Lab Sample ID: 890-4878-4 MS
Matrix: Solid
Analysis Batch: 56652

Client Sample ID: BH23-20 2'
Prep Type: Total/NA
Prep Batch: 56726

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U *+	0.0996	0.1288		mg/Kg		129	70 - 130
Ethylbenzene	<0.00200	U	0.0996	0.1107		mg/Kg		111	70 - 130
Toluene	<0.00200	U *+	0.0996	0.1289		mg/Kg		129	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.199	0.2149		mg/Kg		108	70 - 130
o-Xylene	<0.00200	U	0.0996	0.1017		mg/Kg		102	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: 890-4878-4 MSD
Matrix: Solid
Analysis Batch: 56652

Client Sample ID: BH23-20 2'
Prep Type: Total/NA
Prep Batch: 56726

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U *+	0.0994	0.1271		mg/Kg		128	70 - 130	1	35
Ethylbenzene	<0.00200	U	0.0994	0.09808		mg/Kg		99	70 - 130	12	35
Toluene	<0.00200	U *+	0.0994	0.1179		mg/Kg		119	70 - 130	9	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1901		mg/Kg		96	70 - 130	12	35
o-Xylene	<0.00200	U	0.0994	0.08983		mg/Kg		90	70 - 130	12	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-56785/1-A
Matrix: Solid
Analysis Batch: 57053

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56785

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/02/23 12:25	07/06/23 09:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/02/23 12:25	07/06/23 09:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/02/23 12:25	07/06/23 09:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130	07/02/23 12:25	07/06/23 09:02	1
o-Terphenyl	130		70 - 130	07/02/23 12:25	07/06/23 09:02	1

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

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

Lab Sample ID: LCS 880-56785/2-A
Matrix: Solid
Analysis Batch: 57053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56785

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	891.7		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	769.6		mg/Kg		77	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: LCSD 880-56785/3-A
Matrix: Solid
Analysis Batch: 57053

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56785

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	873.1		mg/Kg		87	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	763.6		mg/Kg		76	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*95*		*70 - 130*

Lab Sample ID: 890-4879-A-1-F MS
Matrix: Solid
Analysis Batch: 57053

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56785

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	885.4		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)	116	F1	996	796.4	F1	mg/Kg		68	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Lab Sample ID: 890-4879-A-1-G MSD
Matrix: Solid
Analysis Batch: 57053

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56785

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	877.3		mg/Kg		86	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	116	F1	996	773.6	F1	mg/Kg		66	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*89*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

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

Lab Sample ID: 890-4879-A-1-G MSD
Matrix: Solid
Analysis Batch: 57053

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56785

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	84		70 - 130

Lab Sample ID: MB 880-56819/1-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56819

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/03/23 08:00	07/03/23 08:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/03/23 08:00	07/03/23 08:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/03/23 08:00	07/03/23 08:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	137	S1+	70 - 130	07/03/23 08:00	07/03/23 08:16	1
o-Terphenyl	124		70 - 130	07/03/23 08:00	07/03/23 08:16	1

Lab Sample ID: LCS 880-56819/2-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56819

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	901.2		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	824.2		mg/Kg		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: LCSD 880-56819/3-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56819

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	875.3		mg/Kg		88	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	841.2		mg/Kg		84	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	82		70 - 130

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

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

Lab Sample ID: 890-4875-A-2-H MS
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56819

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1010		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	1353	F1	mg/Kg		131	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*125*		*70 - 130*
o-Terphenyl	*98*		*70 - 130*

Lab Sample ID: 890-4875-A-2-I MSD
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56819

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	886.9		mg/Kg		87	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	997	1171		mg/Kg		113	70 - 130	14	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-56640/1-A
Matrix: Solid
Analysis Batch: 56763

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/01/23 15:28	1

Lab Sample ID: LCS 880-56640/2-A
Matrix: Solid
Analysis Batch: 56763

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	242.5		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-56640/3-A
Matrix: Solid
Analysis Batch: 56763

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	241.4		mg/Kg		97	90 - 110	0	20

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4878-1 MS
Matrix: Solid
Analysis Batch: 56763

Client Sample ID: BH23-19 0'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	52.9		249	292.8		mg/Kg		96	90 - 110		

Lab Sample ID: 890-4878-1 MSD
Matrix: Solid
Analysis Batch: 56763

Client Sample ID: BH23-19 0'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	52.9		249	290.3		mg/Kg		95	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

GC VOA

Analysis Batch: 56649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-1	BH23-19 0'	Total/NA	Solid	8021B	56697
890-4878-2	BH23-19 2'	Total/NA	Solid	8021B	56697
890-4878-3	BH23-20 0'	Total/NA	Solid	8021B	56697
MB 880-56654/5-A	Method Blank	Total/NA	Solid	8021B	56654
MB 880-56697/5-A	Method Blank	Total/NA	Solid	8021B	56697
LCS 880-56697/1-A	Lab Control Sample	Total/NA	Solid	8021B	56697
LCSD 880-56697/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56697
880-30229-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	56697
880-30229-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	56697

Analysis Batch: 56652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-4	BH23-20 2'	Total/NA	Solid	8021B	56726
890-4878-5	BH23-21 0'	Total/NA	Solid	8021B	56726
890-4878-6	BH23-21 2'	Total/NA	Solid	8021B	56726
MB 880-56653/5-A	Method Blank	Total/NA	Solid	8021B	56653
MB 880-56726/5-A	Method Blank	Total/NA	Solid	8021B	56726
LCS 880-56726/1-A	Lab Control Sample	Total/NA	Solid	8021B	56726
LCSD 880-56726/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56726
890-4878-4 MS	BH23-20 2'	Total/NA	Solid	8021B	56726
890-4878-4 MSD	BH23-20 2'	Total/NA	Solid	8021B	56726

Prep Batch: 56653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-56653/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 56654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-56654/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 56697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-1	BH23-19 0'	Total/NA	Solid	5035	
890-4878-2	BH23-19 2'	Total/NA	Solid	5035	
890-4878-3	BH23-20 0'	Total/NA	Solid	5035	
MB 880-56697/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56697/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56697/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30229-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-30229-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 56726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-4	BH23-20 2'	Total/NA	Solid	5035	
890-4878-5	BH23-21 0'	Total/NA	Solid	5035	
890-4878-6	BH23-21 2'	Total/NA	Solid	5035	
MB 880-56726/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56726/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56726/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4878-4 MS	BH23-20 2'	Total/NA	Solid	5035	
890-4878-4 MSD	BH23-20 2'	Total/NA	Solid	5035	

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

GC VOA

Analysis Batch: 56813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-1	BH23-19 0'	Total/NA	Solid	Total BTEX	
890-4878-2	BH23-19 2'	Total/NA	Solid	Total BTEX	
890-4878-3	BH23-20 0'	Total/NA	Solid	Total BTEX	
890-4878-4	BH23-20 2'	Total/NA	Solid	Total BTEX	
890-4878-5	BH23-21 0'	Total/NA	Solid	Total BTEX	
890-4878-6	BH23-21 2'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 56785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-5	BH23-21 0'	Total/NA	Solid	8015NM Prep	
890-4878-6	BH23-21 2'	Total/NA	Solid	8015NM Prep	
MB 880-56785/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56785/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56785/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4879-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4879-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 56814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-1	BH23-19 0'	Total/NA	Solid	8015B NM	56819
890-4878-2	BH23-19 2'	Total/NA	Solid	8015B NM	56819
890-4878-3	BH23-20 0'	Total/NA	Solid	8015B NM	56819
890-4878-4	BH23-20 2'	Total/NA	Solid	8015B NM	56819
MB 880-56819/1-A	Method Blank	Total/NA	Solid	8015B NM	56819
LCS 880-56819/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56819
LCSD 880-56819/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56819
890-4875-A-2-H MS	Matrix Spike	Total/NA	Solid	8015B NM	56819
890-4875-A-2-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56819

Prep Batch: 56819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-1	BH23-19 0'	Total/NA	Solid	8015NM Prep	
890-4878-2	BH23-19 2'	Total/NA	Solid	8015NM Prep	
890-4878-3	BH23-20 0'	Total/NA	Solid	8015NM Prep	
890-4878-4	BH23-20 2'	Total/NA	Solid	8015NM Prep	
MB 880-56819/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56819/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56819/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4875-A-2-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4875-A-2-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 56924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-1	BH23-19 0'	Total/NA	Solid	8015 NM	
890-4878-2	BH23-19 2'	Total/NA	Solid	8015 NM	
890-4878-3	BH23-20 0'	Total/NA	Solid	8015 NM	
890-4878-4	BH23-20 2'	Total/NA	Solid	8015 NM	
890-4878-5	BH23-21 0'	Total/NA	Solid	8015 NM	
890-4878-6	BH23-21 2'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

GC Semi VOA

Analysis Batch: 57053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-5	BH23-21 0'	Total/NA	Solid	8015B NM	56785
890-4878-6	BH23-21 2'	Total/NA	Solid	8015B NM	56785
MB 880-56785/1-A	Method Blank	Total/NA	Solid	8015B NM	56785
LCS 880-56785/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56785
LCSD 880-56785/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56785
890-4879-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	56785
890-4879-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56785

HPLC/IC

Leach Batch: 56640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-1	BH23-19 0'	Soluble	Solid	DI Leach	
890-4878-2	BH23-19 2'	Soluble	Solid	DI Leach	
890-4878-3	BH23-20 0'	Soluble	Solid	DI Leach	
890-4878-4	BH23-20 2'	Soluble	Solid	DI Leach	
890-4878-5	BH23-21 0'	Soluble	Solid	DI Leach	
890-4878-6	BH23-21 2'	Soluble	Solid	DI Leach	
MB 880-56640/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-56640/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-56640/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4878-1 MS	BH23-19 0'	Soluble	Solid	DI Leach	
890-4878-1 MSD	BH23-19 0'	Soluble	Solid	DI Leach	

Analysis Batch: 56763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4878-1	BH23-19 0'	Soluble	Solid	300.0	56640
890-4878-2	BH23-19 2'	Soluble	Solid	300.0	56640
890-4878-3	BH23-20 0'	Soluble	Solid	300.0	56640
890-4878-4	BH23-20 2'	Soluble	Solid	300.0	56640
890-4878-5	BH23-21 0'	Soluble	Solid	300.0	56640
890-4878-6	BH23-21 2'	Soluble	Solid	300.0	56640
MB 880-56640/1-A	Method Blank	Soluble	Solid	300.0	56640
LCS 880-56640/2-A	Lab Control Sample	Soluble	Solid	300.0	56640
LCSD 880-56640/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	56640
890-4878-1 MS	BH23-19 0'	Soluble	Solid	300.0	56640
890-4878-1 MSD	BH23-19 0'	Soluble	Solid	300.0	56640

Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Client Sample ID: BH23-19 0'
Date Collected: 06/28/23 10:00
Date Received: 06/28/23 15:37

Lab Sample ID: 890-4878-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	56697	06/30/23 12:25	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56649	07/01/23 12:05	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56813	07/03/23 01:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			56924	07/03/23 16:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56819	07/03/23 08:20	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/03/23 13:57	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	56640	06/29/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56763	07/01/23 15:46	CH	EET MID

Client Sample ID: BH23-19 2'
Date Collected: 06/28/23 10:05
Date Received: 06/28/23 15:37

Lab Sample ID: 890-4878-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	56697	06/30/23 12:25	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56649	07/01/23 12:31	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56813	07/03/23 01:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			56924	07/03/23 16:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	56819	07/03/23 08:20	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/03/23 14:20	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	56640	06/29/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56763	07/01/23 16:03	CH	EET MID

Client Sample ID: BH23-20 0'
Date Collected: 06/28/23 10:10
Date Received: 06/28/23 15:37

Lab Sample ID: 890-4878-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	56697	06/30/23 12:25	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56649	07/01/23 12:57	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56813	07/03/23 01:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			56924	07/03/23 16:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56819	07/03/23 08:20	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/03/23 14:43	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56640	06/29/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56763	07/01/23 16:09	CH	EET MID

Client Sample ID: BH23-20 2'
Date Collected: 06/28/23 10:15
Date Received: 06/28/23 15:37

Lab Sample ID: 890-4878-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	56726	06/30/23 15:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56652	07/01/23 04:03	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56813	07/03/23 12:21	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Client Sample ID: BH23-20 2'
Date Collected: 06/28/23 10:15
Date Received: 06/28/23 15:37

Lab Sample ID: 890-4878-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			56924	07/03/23 16:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	56819	07/03/23 08:20	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/03/23 15:06	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	56640	06/29/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56763	07/01/23 16:15	CH	EET MID

Client Sample ID: BH23-21 0'
Date Collected: 06/28/23 10:20
Date Received: 06/28/23 15:37

Lab Sample ID: 890-4878-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	56726	06/30/23 15:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56652	07/01/23 04:24	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56813	07/03/23 12:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			56924	07/05/23 11:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	56785	07/02/23 12:25	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57053	07/07/23 07:33	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	56640	06/29/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56763	07/01/23 16:21	CH	EET MID

Client Sample ID: BH23-21 2'
Date Collected: 06/28/23 10:25
Date Received: 06/28/23 15:37

Lab Sample ID: 890-4878-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	56726	06/30/23 15:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56652	07/01/23 04:44	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56813	07/03/23 12:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			56924	07/05/23 11:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56785	07/02/23 12:25	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57053	07/07/23 07:55	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	56640	06/29/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56763	07/01/23 16:38	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4878-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4878-1	BH23-19 0'	Solid	06/28/23 10:00	06/28/23 15:37	0
890-4878-2	BH23-19 2'	Solid	06/28/23 10:05	06/28/23 15:37	2
890-4878-3	BH23-20 0'	Solid	06/28/23 10:10	06/28/23 15:37	0
890-4878-4	BH23-20 2'	Solid	06/28/23 10:15	06/28/23 15:37	2
890-4878-5	BH23-21 0'	Solid	06/28/23 10:20	06/28/23 15:37	0
890-4878-6	BH23-21 2'	Solid	06/28/23 10:25	06/28/23 15:37	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

Work Order No: _____

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Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	analytical@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	☒ Routine ☐ Rush
Project Number:	23E-03626	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Hunter Klein		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TM027
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	15.4
Total Containers:		Corrected Temperature:	15.2

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

890-4878 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters: TPH	BTEX	Cl	Sample Comments
BH23-19 0'	Soil	6/28/23	10:00				X	X	X	
BH23-19 2'			10:05				X	X	X	
BH23-20 0'			10:10				X	X	X	
BH23-20 2'			10:15				X	X	X	
BH23-21 0'			10:20				X	X	X	
BH23-21 2'			10:25				X	X	X	

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 Hunter Klein	Cee Cee	6.28.23 1537			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM
Released to Imaging: 3/19/2024 9:29:09 AM
7/10/2023 (Rev. 1)
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Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4878-1
SDG Number: 23E-03626

Login Number: 4878
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-4878-1
SDG Number: 23E-03626

Login Number: 4878
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 06/30/23 11:29 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 7/6/2023 9:19:57 AM

JOB DESCRIPTION

Carelton SWD
SDG NUMBER 23E

JOB NUMBER

890-4882-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

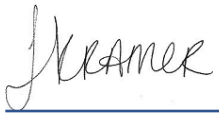
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carelton SWD

Laboratory Job ID: 890-4882-1
SDG: 23E

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Definitions/Glossary

Client: Vertex Job ID: 890-4882-1
Project/Site: Carelton SWD SDG: 23E

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Job ID: 890-4882-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4882-1

Receipt
The samples were received on 6/29/2023 4:03 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 13.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-23 0' (890-4882-1), BH23-23 2' (890-4882-2), BH23-25 0' (890-4882-3), BH23-25 2' (890-4882-4), BH23-26 0' (890-4882-5) and BH23-26 2' (890-4882-6).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-4882-A-1-B MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-25 0' (890-4882-3) and BH23-26 0' (890-4882-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-56907 and analytical batch 880-56814 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH23-23 0' (890-4882-1) and BH23-25 0' (890-4882-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike (MS) recoveries for preparation batch 880-56907 and analytical batch 880-56814 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

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: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Client Sample ID: BH23-23 0'

Date Collected: 06/29/23 10:00
Date Received: 06/29/23 16:03
Sample Depth: 0

Lab Sample ID: 890-4882-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 02:25	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 02:25	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 02:25	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/03/23 10:35	07/04/23 02:25	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/03/23 10:35	07/04/23 02:25	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 02:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*07/03/23 10:35*	*07/04/23 02:25*	*1*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*07/03/23 10:35*	*07/04/23 02:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			07/05/23 12:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/05/23 11:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 00:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 00:06	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 00:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*07/03/23 12:50*	*07/04/23 00:06*	*1*
o-Terphenyl	*117*		*70 - 130*	*07/03/23 12:50*	*07/04/23 00:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**219**		5.00		mg/Kg			07/05/23 18:31	1

Client Sample ID: BH23-23 2'

Date Collected: 06/29/23 10:05
Date Received: 06/29/23 16:03
Sample Depth: 2

Lab Sample ID: 890-4882-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 02:52	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 02:52	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 02:52	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/03/23 10:35	07/04/23 02:52	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/03/23 10:35	07/04/23 02:52	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 02:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*07/03/23 10:35*	*07/04/23 02:52*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Client Sample ID: BH23-23 2'

Date Collected: 06/29/23 10:05
Date Received: 06/29/23 16:03
Sample Depth: 2

Lab Sample ID: 890-4882-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*07/03/23 10:35*	*07/04/23 02:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/05/23 12:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			07/05/23 11:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		07/03/23 12:50	07/04/23 00:29	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/03/23 12:50	07/04/23 00:29	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/03/23 12:50	07/04/23 00:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*07/03/23 12:50*	*07/04/23 00:29*	*1*
o-Terphenyl	*100*		*70 - 130*	*07/03/23 12:50*	*07/04/23 00:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**220**		4.97		mg/Kg			07/05/23 18:37	1

Client Sample ID: BH23-25 0'

Date Collected: 06/29/23 10:10
Date Received: 06/29/23 16:03
Sample Depth: 0

Lab Sample ID: 890-4882-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		07/03/23 10:35	07/04/23 03:19	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/03/23 10:35	07/04/23 03:19	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/03/23 10:35	07/04/23 03:19	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		07/03/23 10:35	07/04/23 03:19	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		07/03/23 10:35	07/04/23 03:19	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/03/23 10:35	07/04/23 03:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*139*	*S1+*	*70 - 130*	*07/03/23 10:35*	*07/04/23 03:19*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*07/03/23 10:35*	*07/04/23 03:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			07/05/23 12:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**77.0**		49.9		mg/Kg			07/05/23 11:42	1

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Client Sample ID: BH23-25 0'

Lab Sample ID: 890-4882-3
Matrix: Solid
Date Collected: 06/29/23 10:10
Date Received: 06/29/23 16:03
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 00:52	1
Diesel Range Organics (Over C10-C28)	**77.0**		49.9		mg/Kg		07/03/23 12:50	07/04/23 00:52	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*140*	*S1+*	*70 - 130*	*07/03/23 12:50*	*07/04/23 00:52*	*1*
o-Terphenyl	*125*		*70 - 130*	*07/03/23 12:50*	*07/04/23 00:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**278**		5.04		mg/Kg			07/05/23 18:42	1

Client Sample ID: BH23-25 2'

Lab Sample ID: 890-4882-4
Matrix: Solid
Date Collected: 06/29/23 10:15
Date Received: 06/29/23 16:03
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		07/03/23 10:35	07/04/23 03:45	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/03/23 10:35	07/04/23 03:45	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/03/23 10:35	07/04/23 03:45	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		07/03/23 10:35	07/04/23 03:45	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		07/03/23 10:35	07/04/23 03:45	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/03/23 10:35	07/04/23 03:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*	*07/03/23 10:35*	*07/04/23 03:45*	*1*
1,4-Difluorobenzene (Surr)	*70*		*70 - 130*	*07/03/23 10:35*	*07/04/23 03:45*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			07/05/23 12:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/05/23 11:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 01:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 01:14	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 01:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*07/03/23 12:50*	*07/04/23 01:14*	*1*
o-Terphenyl	*106*		*70 - 130*	*07/03/23 12:50*	*07/04/23 01:14*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Client Sample ID: BH23-25 2'

Lab Sample ID: 890-4882-4
Matrix: Solid
Date Collected: 06/29/23 10:15
Date Received: 06/29/23 16:03
Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	184		4.98		mg/Kg			07/05/23 18:48	1

Client Sample ID: BH23-26 0'

Lab Sample ID: 890-4882-5
Matrix: Solid
Date Collected: 06/29/23 10:20
Date Received: 06/29/23 16:03
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 04:12	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 04:12	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 04:12	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/03/23 10:35	07/04/23 04:12	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/03/23 10:35	07/04/23 04:12	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/03/23 10:35	07/04/23 04:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*	*07/03/23 10:35*	*07/04/23 04:12*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*07/03/23 10:35*	*07/04/23 04:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/05/23 12:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/05/23 11:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/03/23 12:50	07/04/23 01:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/03/23 12:50	07/04/23 01:36	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/03/23 12:50	07/04/23 01:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*07/03/23 12:50*	*07/04/23 01:36*	*1*
o-Terphenyl	*100*		*70 - 130*	*07/03/23 12:50*	*07/04/23 01:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1410		24.8		mg/Kg			07/05/23 18:54	5

Client Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Client Sample ID: BH23-26 2'

Date Collected: 06/29/23 10:25
Date Received: 06/29/23 16:03
Sample Depth: 2

Lab Sample ID: 890-4882-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/03/23 10:35	07/04/23 04:39	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/03/23 10:35	07/04/23 04:39	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/03/23 10:35	07/04/23 04:39	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/03/23 10:35	07/04/23 04:39	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/03/23 10:35	07/04/23 04:39	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/03/23 10:35	07/04/23 04:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*07/03/23 10:35*	*07/04/23 04:39*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*07/03/23 10:35*	*07/04/23 04:39*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/05/23 12:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/05/23 11:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 10:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 10:31	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/03/23 12:50	07/04/23 10:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*07/03/23 12:50*	*07/04/23 10:31*	*1*
o-Terphenyl	*114*		*70 - 130*	*07/03/23 12:50*	*07/04/23 10:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**75.4**		4.99		mg/Kg			07/05/23 19:00	1

Surrogate Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4882-1	BH23-23 0'	115	72
890-4882-1 MS	BH23-23 0'	125	77
890-4882-1 MSD	BH23-23 0'	133 S1+	89
890-4882-2	BH23-23 2'	129	82
890-4882-3	BH23-25 0'	139 S1+	80
890-4882-4	BH23-25 2'	125	70
890-4882-5	BH23-26 0'	135 S1+	75
890-4882-6	BH23-26 2'	122	78
LCS 880-56874/1-A	Lab Control Sample	121	91
LCSD 880-56874/2-A	Lab Control Sample Dup	124	85
MB 880-56843/5-A	Method Blank	76	81
MB 880-56874/5-A	Method Blank	81	74

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4882-1	BH23-23 0'	132 S1+	117
890-4882-2	BH23-23 2'	114	100
890-4882-3	BH23-25 0'	140 S1+	125
890-4882-4	BH23-25 2'	118	106
890-4882-5	BH23-26 0'	116	100
890-4882-6	BH23-26 2'	129	114
890-4887-A-3-D MS	Matrix Spike	107	87
890-4887-A-3-E MSD	Matrix Spike Duplicate	126	100
LCS 880-56907/2-A	Lab Control Sample	88	80
LCSD 880-56907/3-A	Lab Control Sample Dup	93	83
MB 880-56907/1-A	Method Blank	162 S1+	148 S1+

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-56843/5-A
Matrix: Solid
Analysis Batch: 56821

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56843

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/03/23 09:35	07/03/23 12:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/03/23 09:35	07/03/23 12:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/03/23 09:35	07/03/23 12:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/03/23 09:35	07/03/23 12:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/03/23 09:35	07/03/23 12:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/03/23 09:35	07/03/23 12:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*07/03/23 09:35*	*07/03/23 12:08*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*07/03/23 09:35*	*07/03/23 12:08*	*1*

Lab Sample ID: MB 880-56874/5-A
Matrix: Solid
Analysis Batch: 56821

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56874

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/03/23 10:35	07/04/23 01:59	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/03/23 10:35	07/04/23 01:59	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/03/23 10:35	07/04/23 01:59	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/03/23 10:35	07/04/23 01:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/03/23 10:35	07/04/23 01:59	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/03/23 10:35	07/04/23 01:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*07/03/23 10:35*	*07/04/23 01:59*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*07/03/23 10:35*	*07/04/23 01:59*	*1*

Lab Sample ID: LCS 880-56874/1-A
Matrix: Solid
Analysis Batch: 56821

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56874

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1222		mg/Kg		122	70 - 130
Ethylbenzene	0.100	0.1190		mg/Kg		119	70 - 130
Toluene	0.100	0.1222		mg/Kg		122	70 - 130
m-Xylene & p-Xylene	0.200	0.2341		mg/Kg		117	70 - 130
o-Xylene	0.100	0.1203		mg/Kg		120	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: LCSD 880-56874/2-A
Matrix: Solid
Analysis Batch: 56821

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56874

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1238		mg/Kg		124	70 - 130	1	35

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

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

Lab Sample ID: LCSD 880-56874/2-A
Matrix: Solid
Analysis Batch: 56821

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56874

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene			0.100	0.1155		mg/Kg		116	70 - 130	3	35
Toluene			0.100	0.1201		mg/Kg		120	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2245		mg/Kg		112	70 - 130	4	35
o-Xylene			0.100	0.1163		mg/Kg		116	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*

Lab Sample ID: 890-4882-1 MS
Matrix: Solid
Analysis Batch: 56821

Client Sample ID: BH23-23 0'
Prep Type: Total/NA
Prep Batch: 56874

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.0996	0.1143		mg/Kg		115	70 - 130
Ethylbenzene	<0.00202	U	0.0996	0.1056		mg/Kg		106	70 - 130
Toluene	<0.00202	U	0.0996	0.1066		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	<0.00404	U	0.199	0.2037		mg/Kg		102	70 - 130
o-Xylene	<0.00202	U	0.0996	0.1041		mg/Kg		104	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*

Lab Sample ID: 890-4882-1 MSD
Matrix: Solid
Analysis Batch: 56821

Client Sample ID: BH23-23 0'
Prep Type: Total/NA
Prep Batch: 56874

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.1127		mg/Kg		113	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.0994	0.1006		mg/Kg		101	70 - 130	5	35
Toluene	<0.00202	U	0.0994	0.1105		mg/Kg		111	70 - 130	4	35
m-Xylene & p-Xylene	<0.00404	U	0.199	0.1944		mg/Kg		98	70 - 130	5	35
o-Xylene	<0.00202	U	0.0994	0.09941		mg/Kg		100	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-56907/1-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56907

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/03/23 12:50	07/03/23 20:16	1

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

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

Lab Sample ID: MB 880-56907/1-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56907

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/03/23 12:50	07/03/23 20:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/03/23 12:50	07/03/23 20:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*162*	*S1+*	*70 - 130*	*07/03/23 12:50*	*07/03/23 20:16*	*1*
o-Terphenyl	*148*	*S1+*	*70 - 130*	*07/03/23 12:50*	*07/03/23 20:16*	*1*

Lab Sample ID: LCS 880-56907/2-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56907

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	921.8		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	868.7		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

Lab Sample ID: LCSD 880-56907/3-A
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56907

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	875.8		mg/Kg		88	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	838.2		mg/Kg		84	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: 890-4887-A-3-D MS
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56907

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	1108		mg/Kg		107	70 - 130		
Diesel Range Organics (Over C10-C28)	963	F1	1000	1600	F1	mg/Kg		64	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

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

Lab Sample ID: 890-4887-A-3-E MSD
Matrix: Solid
Analysis Batch: 56814

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56907

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	939.5		mg/Kg		91	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	963	F1	997	1875		mg/Kg		91	70 - 130	16	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*126*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-56897/1-A
Matrix: Solid
Analysis Batch: 56989

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/05/23 16:04	1

Lab Sample ID: LCS 880-56897/2-A
Matrix: Solid
Analysis Batch: 56989

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	234.0		mg/Kg		94	90 - 110

Lab Sample ID: LCSD 880-56897/3-A
Matrix: Solid
Analysis Batch: 56989

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	235.1		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 890-4888-A-31-B MS
Matrix: Solid
Analysis Batch: 56989

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	29.5		248	254.9		mg/Kg		91	90 - 110

Lab Sample ID: 890-4888-A-31-C MSD
Matrix: Solid
Analysis Batch: 56989

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	29.5		248	255.1		mg/Kg		91	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

GC VOA

Analysis Batch: 56821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4882-1	BH23-23 0'	Total/NA	Solid	8021B	56874
890-4882-2	BH23-23 2'	Total/NA	Solid	8021B	56874
890-4882-3	BH23-25 0'	Total/NA	Solid	8021B	56874
890-4882-4	BH23-25 2'	Total/NA	Solid	8021B	56874
890-4882-5	BH23-26 0'	Total/NA	Solid	8021B	56874
890-4882-6	BH23-26 2'	Total/NA	Solid	8021B	56874
MB 880-56843/5-A	Method Blank	Total/NA	Solid	8021B	56843
MB 880-56874/5-A	Method Blank	Total/NA	Solid	8021B	56874
LCS 880-56874/1-A	Lab Control Sample	Total/NA	Solid	8021B	56874
LCSD 880-56874/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56874
890-4882-1 MS	BH23-23 0'	Total/NA	Solid	8021B	56874
890-4882-1 MSD	BH23-23 0'	Total/NA	Solid	8021B	56874

Prep Batch: 56843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-56843/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 56874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4882-1	BH23-23 0'	Total/NA	Solid	5035	
890-4882-2	BH23-23 2'	Total/NA	Solid	5035	
890-4882-3	BH23-25 0'	Total/NA	Solid	5035	
890-4882-4	BH23-25 2'	Total/NA	Solid	5035	
890-4882-5	BH23-26 0'	Total/NA	Solid	5035	
890-4882-6	BH23-26 2'	Total/NA	Solid	5035	
MB 880-56874/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56874/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56874/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4882-1 MS	BH23-23 0'	Total/NA	Solid	5035	
890-4882-1 MSD	BH23-23 0'	Total/NA	Solid	5035	

Analysis Batch: 57004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4882-1	BH23-23 0'	Total/NA	Solid	Total BTEX	
890-4882-2	BH23-23 2'	Total/NA	Solid	Total BTEX	
890-4882-3	BH23-25 0'	Total/NA	Solid	Total BTEX	
890-4882-4	BH23-25 2'	Total/NA	Solid	Total BTEX	
890-4882-5	BH23-26 0'	Total/NA	Solid	Total BTEX	
890-4882-6	BH23-26 2'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 56814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4882-1	BH23-23 0'	Total/NA	Solid	8015B NM	56907
890-4882-2	BH23-23 2'	Total/NA	Solid	8015B NM	56907
890-4882-3	BH23-25 0'	Total/NA	Solid	8015B NM	56907
890-4882-4	BH23-25 2'	Total/NA	Solid	8015B NM	56907
890-4882-5	BH23-26 0'	Total/NA	Solid	8015B NM	56907
890-4882-6	BH23-26 2'	Total/NA	Solid	8015B NM	56907
MB 880-56907/1-A	Method Blank	Total/NA	Solid	8015B NM	56907

QC Association Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

GC Semi VOA (Continued)

Analysis Batch: 56814 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-56907/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56907
LCSD 880-56907/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56907
890-4887-A-3-D MS	Matrix Spike	Total/NA	Solid	8015B NM	56907
890-4887-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56907

Prep Batch: 56907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4882-1	BH23-23 0'	Total/NA	Solid	8015NM Prep	
890-4882-2	BH23-23 2'	Total/NA	Solid	8015NM Prep	
890-4882-3	BH23-25 0'	Total/NA	Solid	8015NM Prep	
890-4882-4	BH23-25 2'	Total/NA	Solid	8015NM Prep	
890-4882-5	BH23-26 0'	Total/NA	Solid	8015NM Prep	
890-4882-6	BH23-26 2'	Total/NA	Solid	8015NM Prep	
MB 880-56907/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56907/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56907/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4887-A-3-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4887-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 56973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4882-1	BH23-23 0'	Total/NA	Solid	8015 NM	
890-4882-2	BH23-23 2'	Total/NA	Solid	8015 NM	
890-4882-3	BH23-25 0'	Total/NA	Solid	8015 NM	
890-4882-4	BH23-25 2'	Total/NA	Solid	8015 NM	
890-4882-5	BH23-26 0'	Total/NA	Solid	8015 NM	
890-4882-6	BH23-26 2'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 56897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4882-1	BH23-23 0'	Soluble	Solid	DI Leach	
890-4882-2	BH23-23 2'	Soluble	Solid	DI Leach	
890-4882-3	BH23-25 0'	Soluble	Solid	DI Leach	
890-4882-4	BH23-25 2'	Soluble	Solid	DI Leach	
890-4882-5	BH23-26 0'	Soluble	Solid	DI Leach	
890-4882-6	BH23-26 2'	Soluble	Solid	DI Leach	
MB 880-56897/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-56897/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-56897/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4888-A-31-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4888-A-31-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 56989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4882-1	BH23-23 0'	Soluble	Solid	300.0	56897
890-4882-2	BH23-23 2'	Soluble	Solid	300.0	56897
890-4882-3	BH23-25 0'	Soluble	Solid	300.0	56897
890-4882-4	BH23-25 2'	Soluble	Solid	300.0	56897
890-4882-5	BH23-26 0'	Soluble	Solid	300.0	56897

QC Association Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

HPLC/IC (Continued)

Analysis Batch: 56989 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4882-6	BH23-26 2'	Soluble	Solid	300.0	56897
MB 880-56897/1-A	Method Blank	Soluble	Solid	300.0	56897
LCS 880-56897/2-A	Lab Control Sample	Soluble	Solid	300.0	56897
LCSD 880-56897/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	56897
890-4888-A-31-B MS	Matrix Spike	Soluble	Solid	300.0	56897
890-4888-A-31-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	56897

Lab Chronicle

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Client Sample ID: BH23-23 0'
Date Collected: 06/29/23 10:00
Date Received: 06/29/23 16:03

Lab Sample ID: 890-4882-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	56874	07/03/23 10:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56821	07/04/23 02:25	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57004	07/05/23 12:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			56973	07/05/23 11:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56907	07/03/23 12:50	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/04/23 00:06	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	56897	07/03/23 11:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56989	07/05/23 18:31	CH	EET MID

Client Sample ID: BH23-23 2'
Date Collected: 06/29/23 10:05
Date Received: 06/29/23 16:03

Lab Sample ID: 890-4882-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	56874	07/03/23 10:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56821	07/04/23 02:52	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57004	07/05/23 12:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			56973	07/05/23 11:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	56907	07/03/23 12:50	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/04/23 00:29	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	56897	07/03/23 11:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56989	07/05/23 18:37	CH	EET MID

Client Sample ID: BH23-25 0'
Date Collected: 06/29/23 10:10
Date Received: 06/29/23 16:03

Lab Sample ID: 890-4882-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	56874	07/03/23 10:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56821	07/04/23 03:19	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57004	07/05/23 12:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			56973	07/05/23 11:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56907	07/03/23 12:50	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/04/23 00:52	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	56897	07/03/23 11:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56989	07/05/23 18:42	CH	EET MID

Client Sample ID: BH23-25 2'
Date Collected: 06/29/23 10:15
Date Received: 06/29/23 16:03

Lab Sample ID: 890-4882-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	56874	07/03/23 10:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56821	07/04/23 03:45	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57004	07/05/23 12:58	SM	EET MID

Lab Chronicle

Client: Vertex
Job ID: 890-4882-1
Project/Site: Carelton SWD
SDG: 23E

Client Sample ID: BH23-25 2'
Lab Sample ID: 890-4882-4
Date Collected: 06/29/23 10:15
Matrix: Solid
Date Received: 06/29/23 16:03

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			56973	07/05/23 11:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56907	07/03/23 12:50	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/04/23 01:14	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	56897	07/03/23 11:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56989	07/05/23 18:48	CH	EET MID

Client Sample ID: BH23-26 0'
Lab Sample ID: 890-4882-5
Date Collected: 06/29/23 10:20
Matrix: Solid
Date Received: 06/29/23 16:03

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	56874	07/03/23 10:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56821	07/04/23 04:12	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57004	07/05/23 12:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			56973	07/05/23 11:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	56907	07/03/23 12:50	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/04/23 01:36	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	56897	07/03/23 11:56	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	56989	07/05/23 18:54	CH	EET MID

Client Sample ID: BH23-26 2'
Lab Sample ID: 890-4882-6
Date Collected: 06/29/23 10:25
Matrix: Solid
Date Received: 06/29/23 16:03

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	56874	07/03/23 10:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56821	07/04/23 04:39	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57004	07/05/23 12:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			56973	07/05/23 11:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56907	07/03/23 12:50	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56814	07/04/23 10:31	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56897	07/03/23 11:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56989	07/05/23 19:00	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carelton SWD

Job ID: 890-4882-1
SDG: 23E

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4882-1	BH23-23 0'	Solid	06/29/23 10:00	06/29/23 16:03	0
890-4882-2	BH23-23 2'	Solid	06/29/23 10:05	06/29/23 16:03	2
890-4882-3	BH23-25 0'	Solid	06/29/23 10:10	06/29/23 16:03	0
890-4882-4	BH23-25 2'	Solid	06/29/23 10:15	06/29/23 16:03	2
890-4882-5	BH23-26 0'	Solid	06/29/23 10:20	06/29/23 16:03	0
890-4882-6	BH23-26 2'	Solid	06/29/23 10:25	06/29/23 16:03	2

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7/6/2023

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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

Work Order No: _____

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Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	analytical@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	☒ Routine ☐ Rush
Project Number:	23E	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Hunter Klein		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	THM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	14.0
Total Containers:		Corrected Temperature:	13.8

ANALYSIS REQUEST

Parameters: TPH, BTEX, Cl

890-4882 Chain of Custody

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	Grab/Comp	# of Cont	Sample Comments
BH23-23 0'	Soil	6/29/23	10:00				
BH23-23 2'			10:05				
BH23-25 0'			10:10				
BH23-25 2'			10:15				
BH23-26 0'			10:20				
BH23-26 2'			10:25				

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	Hunter Klein		6.27.23 1603			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

Eurofins Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-1351 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-4882-1
Address: 1211 W Florida Ave ,	Due Date Requested: 7/5/2023			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: carleton swd	Project #: 89000162			
Site	SSOW#			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P - Na2O4S, Q Na2SO3, R - Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note.
			Preservation Code:										
BH23-23 0' (890-4882-1)	6/29/23	10 00 Mountain		Solid			X	X	X	X	X	1	
BH23-23 2' (890-4882-2)	6/29/23	10 05 Mountain		Solid			X	X	X	X	X	1	
BH23-25 0' (890-4882-3)	6/29/23	10 10 Mountain		Solid			X	X	X	X	X	1	
BH23-25 2' (890-4882-4)	6/29/23	10 15 Mountain		Solid			X	X	X	X	X	1	
BH23-26 0' (890-4882-5)	6/29/23	10 20 Mountain		Solid			X	X	X	X	X	1	
BH23-26 2' (890-4882-6)	6/29/23	10 25 Mountain		Solid			X	X	X	X	X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central LLC

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Received by OCD: 10/13/2023 12:00:18 AM
Released to Imaging: 3/19/2024 9:29:09 AM
7/6/2023

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4882-1
SDG Number: 23E

Login Number: 4882
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-4882-1
SDG Number: 23E

Login Number: 4882
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 07/03/23 08:26 AM

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.	True	
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 7/11/2023 5:23:36 PM

JOB DESCRIPTION

Carleton SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-4889-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

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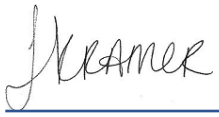
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
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Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-4889-1
SDG: 23E-03626

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Definitions/Glossary

Client: Vertex Job ID: 890-4889-1
Project/Site: Carleton SWD SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Job ID: 890-4889-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4889-1

Receipt
The samples were received on 6/30/2023 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 14.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-27_0' (890-4889-1), BH23-27_2' (890-4889-2), BH23-28_0' (890-4889-3) and BH23-28_2' (890-4889-4).

GC VOA
Method 8021B: The continuing calibration verification (CCV) associated with batch 880-57056 recovered below the lower control limit for m-Xylene & p-Xylene and o-Xylene. An acceptable CCV was analyzed within the 12 hour window, therefore data was qualified and reported. The associated sample is impacted: (CCV 880-57056/20).

Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-57118/2), (LCS 880-57125/1-A) and (LCSD 880-57125/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-28_0' (890-4889-3), (880-30420-A-1-E), (880-30420-A-1-C MS) and (880-30420-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: CCV was biased high for analytes. Since no analytes were detected, the data was qualified and reported.(CCV 880-57118/20)

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH23-27_0' (890-4889-1), BH23-27_2' (890-4889-2) and (890-4896-A-1-F). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 880-56948 and analytical batch 880-57082 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-56948 and analytical batch 880-57082 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control 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.

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Client Sample ID: BH23-27_0'

Lab Sample ID: 890-4889-1
Matrix: Solid
Date Collected: 06/30/23 11:00
Date Received: 06/30/23 15:50
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/06/23 12:47	07/07/23 09:32	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/06/23 12:47	07/07/23 09:32	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/06/23 12:47	07/07/23 09:32	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/06/23 12:47	07/07/23 09:32	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/06/23 12:47	07/07/23 09:32	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/06/23 12:47	07/07/23 09:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*07/06/23 12:47*	*07/07/23 09:32*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*07/06/23 12:47*	*07/07/23 09:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			07/07/23 10:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/11/23 18:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/11/23 10:04	07/11/23 15:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/11/23 10:04	07/11/23 15:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/11/23 10:04	07/11/23 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*07/11/23 10:04*	*07/11/23 15:03*	*1*
o-Terphenyl	*111*		*70 - 130*	*07/11/23 10:04*	*07/11/23 15:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**377**		4.98		mg/Kg			07/06/23 12:40	1

Client Sample ID: BH23-27_2'

Lab Sample ID: 890-4889-2
Matrix: Solid
Date Collected: 06/30/23 11:05
Date Received: 06/30/23 15:50
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/06/23 12:47	07/07/23 09:52	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/06/23 12:47	07/07/23 09:52	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/06/23 12:47	07/07/23 09:52	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/06/23 12:47	07/07/23 09:52	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/06/23 12:47	07/07/23 09:52	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/06/23 12:47	07/07/23 09:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*07/06/23 12:47*	*07/07/23 09:52*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Client Sample ID: BH23-27_2'

Lab Sample ID: 890-4889-2
Matrix: Solid
Date Collected: 06/30/23 11:05
Date Received: 06/30/23 15:50
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*07/06/23 12:47*	*07/07/23 09:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/07/23 10:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/11/23 18:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/11/23 10:04	07/11/23 15:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/11/23 10:04	07/11/23 15:25	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/11/23 10:04	07/11/23 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*07/11/23 10:04*	*07/11/23 15:25*	*1*
o-Terphenyl	*113*		*70 - 130*	*07/11/23 10:04*	*07/11/23 15:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**141**		4.95		mg/Kg			07/06/23 12:45	1

Client Sample ID: BH23-28_0'

Lab Sample ID: 890-4889-3
Matrix: Solid
Date Collected: 06/30/23 11:40
Date Received: 06/30/23 15:50
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		07/07/23 09:28	07/07/23 15:30	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/07/23 09:28	07/07/23 15:30	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/07/23 09:28	07/07/23 15:30	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		07/07/23 09:28	07/07/23 15:30	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		07/07/23 09:28	07/07/23 15:30	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/07/23 09:28	07/07/23 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*198*	*S1+*	*70 - 130*	*07/07/23 09:28*	*07/07/23 15:30*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*07/07/23 09:28*	*07/07/23 15:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			07/07/23 16:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/11/23 18:13	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Client Sample ID: BH23-28_0'

Lab Sample ID: 890-4889-3
Matrix: Solid
Date Collected: 06/30/23 11:40
Date Received: 06/30/23 15:50
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/11/23 10:04	07/11/23 15:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/11/23 10:04	07/11/23 15:48	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/11/23 10:04	07/11/23 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*07/11/23 10:04*	*07/11/23 15:48*	*1*
o-Terphenyl	*107*		*70 - 130*	*07/11/23 10:04*	*07/11/23 15:48*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**48.3**		5.00		mg/Kg			07/06/23 12:50	1

Client Sample ID: BH23-28_2'

Lab Sample ID: 890-4889-4
Matrix: Solid
Date Collected: 06/30/23 11:45
Date Received: 06/30/23 15:50
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/07/23 09:28	07/07/23 15:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/07/23 09:28	07/07/23 15:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/07/23 09:28	07/07/23 15:55	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/07/23 09:28	07/07/23 15:55	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/07/23 09:28	07/07/23 15:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/07/23 09:28	07/07/23 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*189*	*S1+*	*70 - 130*	*07/07/23 09:28*	*07/07/23 15:55*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*07/07/23 09:28*	*07/07/23 15:55*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			07/10/23 15:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/11/23 18:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/11/23 10:04	07/11/23 16:12	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/11/23 10:04	07/11/23 16:12	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/11/23 10:04	07/11/23 16:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*07/11/23 10:04*	*07/11/23 16:12*	*1*
o-Terphenyl	*102*		*70 - 130*	*07/11/23 10:04*	*07/11/23 16:12*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Client Sample ID: BH23-28_2'
Date Collected: 06/30/23 11:45
Date Received: 06/30/23 15:50
Sample Depth: 2

Lab Sample ID: 890-4889-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	54.1		4.97		mg/Kg			07/06/23 13:06	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-30420-A-1-C MS	Matrix Spike	171 S1+	82
880-30420-A-1-D MSD	Matrix Spike Duplicate	162 S1+	73
890-4889-1	BH23-27_0'	81	102
890-4889-2	BH23-27_2'	93	98
890-4889-3	BH23-28_0'	198 S1+	93
890-4889-4	BH23-28_2'	189 S1+	74
890-4891-A-1-D MS	Matrix Spike	93	102
890-4891-A-1-E MSD	Matrix Spike Duplicate	90	104
LCS 880-57091/1-A	Lab Control Sample	90	101
LCS 880-57125/1-A	Lab Control Sample	155 S1+	66 S1-
LCSD 880-57091/2-A	Lab Control Sample Dup	104	106
LCSD 880-57125/2-A	Lab Control Sample Dup	147 S1+	78
MB 880-57061/5-A	Method Blank	92	124
MB 880-57091/5-A	Method Blank	90	115
MB 880-57125/5-A	Method Blank	104	73

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4889-1	BH23-27_0'	131 S1+	111
890-4889-2	BH23-27_2'	133 S1+	113
890-4889-3	BH23-28_0'	128	107
890-4889-4	BH23-28_2'	122	102
890-4896-A-1-G MS	Matrix Spike	111	93
890-4896-A-1-H MSD	Matrix Spike Duplicate	118	95
LCS 880-57388/2-A	Lab Control Sample	96	88
LCSD 880-57388/3-A	Lab Control Sample Dup	104	95
MB 880-57388/1-A	Method Blank	121	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-57061/5-A
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57061

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/06/23 09:41	07/06/23 13:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*07/06/23 09:41*	*07/06/23 13:15*	*1*
1,4-Difluorobenzene (Surr)	*124*		*70 - 130*	*07/06/23 09:41*	*07/06/23 13:15*	*1*

Lab Sample ID: MB 880-57091/5-A
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57091

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/06/23 12:47	07/07/23 00:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/06/23 12:47	07/07/23 00:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/06/23 12:47	07/07/23 00:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/06/23 12:47	07/07/23 00:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/06/23 12:47	07/07/23 00:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/06/23 12:47	07/07/23 00:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*07/06/23 12:47*	*07/07/23 00:52*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*07/06/23 12:47*	*07/07/23 00:52*	*1*

Lab Sample ID: LCS 880-57091/1-A
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1091		mg/Kg		109	70 - 130
Ethylbenzene	0.100	0.08661		mg/Kg		87	70 - 130
Toluene	0.100	0.1128		mg/Kg		113	70 - 130
m-Xylene & p-Xylene	0.200	0.1738		mg/Kg		87	70 - 130
o-Xylene	0.100	0.08560		mg/Kg		86	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-57091/2-A
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57091

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1203		mg/Kg		120	70 - 130	10	35

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

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

Lab Sample ID: LCSD 880-57091/2-A
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57091

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene			0.100	0.1026		mg/Kg		103	70 - 130	17	35
Toluene			0.100	0.1222		mg/Kg		122	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1982		mg/Kg		99	70 - 130	13	35
o-Xylene			0.100	0.09600		mg/Kg		96	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-4891-A-1-D MS
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0994	0.1081		mg/Kg		109	70 - 130
Ethylbenzene	<0.00199	U	0.0994	0.08511		mg/Kg		86	70 - 130
Toluene	<0.00199	U	0.0994	0.1166		mg/Kg		117	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1714		mg/Kg		86	70 - 130
o-Xylene	<0.00199	U	0.0994	0.08294		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 890-4891-A-1-E MSD
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 57091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0998	0.1065		mg/Kg		107	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0998	0.08579		mg/Kg		86	70 - 130	1	35
Toluene	<0.00199	U	0.0998	0.1176		mg/Kg		118	70 - 130	1	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1706		mg/Kg		85	70 - 130	0	35
o-Xylene	<0.00199	U	0.0998	0.08296		mg/Kg		83	70 - 130	0	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 880-57125/5-A
Matrix: Solid
Analysis Batch: 57118

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57125

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/07/23 09:28	07/07/23 11:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/07/23 09:28	07/07/23 11:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/07/23 09:28	07/07/23 11:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/07/23 09:28	07/07/23 11:39	1

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

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

Lab Sample ID: MB 880-57125/5-A
Matrix: Solid
Analysis Batch: 57118

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57125

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/07/23 09:28	07/07/23 11:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/07/23 09:28	07/07/23 11:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*07/07/23 09:28*	*07/07/23 11:39*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*07/07/23 09:28*	*07/07/23 11:39*	*1*

Lab Sample ID: LCS 880-57125/1-A
Matrix: Solid
Analysis Batch: 57118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1135		mg/Kg		114	70 - 130
Ethylbenzene	0.100	0.1092		mg/Kg		109	70 - 130
Toluene	0.100	0.1138		mg/Kg		114	70 - 130
m-Xylene & p-Xylene	0.200	0.2196		mg/Kg		110	70 - 130
o-Xylene	0.100	0.1185		mg/Kg		119	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*155*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*66*	*S1-*	*70 - 130*

Lab Sample ID: LCSD 880-57125/2-A
Matrix: Solid
Analysis Batch: 57118

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57125

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1208		mg/Kg		121	70 - 130	6	35
Ethylbenzene	0.100	0.1177		mg/Kg		118	70 - 130	7	35
Toluene	0.100	0.1127		mg/Kg		113	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2362		mg/Kg		118	70 - 130	7	35
o-Xylene	0.100	0.1176		mg/Kg		118	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*147*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*

Lab Sample ID: 880-30420-A-1-C MS
Matrix: Solid
Analysis Batch: 57118

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57125

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.0994	0.1012		mg/Kg		102	70 - 130
Ethylbenzene	<0.00198	U	0.0994	0.07584		mg/Kg		76	70 - 130
Toluene	<0.00198	U	0.0994	0.09116		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.199	0.1604		mg/Kg		81	70 - 130
o-Xylene	<0.00198	U	0.0994	0.08102		mg/Kg		82	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

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

Lab Sample ID: 880-30420-A-1-C MS
Matrix: Solid
Analysis Batch: 57118

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57125

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	171	S1+	70 - 130
1,4-Difluorobenzene (Surr)	82		70 - 130

Lab Sample ID: 880-30420-A-1-D MSD
Matrix: Solid
Analysis Batch: 57118

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 57125

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0998	0.1045		mg/Kg		105	70 - 130	3	35
Ethylbenzene	<0.00198	U	0.0998	0.09535		mg/Kg		96	70 - 130	23	35
Toluene	<0.00198	U	0.0998	0.1022		mg/Kg		102	70 - 130	11	35
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1895		mg/Kg		95	70 - 130	17	35
o-Xylene	<0.00198	U	0.0998	0.09564		mg/Kg		96	70 - 130	17	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	162	S1+	70 - 130
1,4-Difluorobenzene (Surr)	73		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-57388/1-A
Matrix: Solid
Analysis Batch: 57372

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57388

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/11/23 10:04	07/11/23 10:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/11/23 10:04	07/11/23 10:21	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/11/23 10:04	07/11/23 10:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130	07/11/23 10:04	07/11/23 10:21	1
o-Terphenyl	110		70 - 130	07/11/23 10:04	07/11/23 10:21	1

Lab Sample ID: LCS 880-57388/2-A
Matrix: Solid
Analysis Batch: 57372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57388

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1062		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)	1000	912.9		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	88		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

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

Lab Sample ID: LCSD 880-57388/3-A
Matrix: Solid
Analysis Batch: 57372

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57388

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	976.2		mg/Kg		98	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	840.1		mg/Kg		84	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*95*		*70 - 130*

Lab Sample ID: 890-4896-A-1-G MS
Matrix: Solid
Analysis Batch: 57372

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57388

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	865.7		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	999	1088		mg/Kg		106	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*111*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: 890-4896-A-1-H MSD
Matrix: Solid
Analysis Batch: 57372

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 57388

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	915.8		mg/Kg		89	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	1132		mg/Kg		110	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*118*		*70 - 130*
o-Terphenyl	*95*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-56948/1-A
Matrix: Solid
Analysis Batch: 57082

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/06/23 12:04	1

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-56948/2-A
Matrix: Solid
Analysis Batch: 57082

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	235.9		mg/Kg		94	90 - 110

Lab Sample ID: LCSD 880-56948/3-A
Matrix: Solid
Analysis Batch: 57082

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	228.4		mg/Kg		91	90 - 110	3	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

GC VOA

Analysis Batch: 57056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-1	BH23-27_0'	Total/NA	Solid	8021B	57091
890-4889-2	BH23-27_2'	Total/NA	Solid	8021B	57091
MB 880-57061/5-A	Method Blank	Total/NA	Solid	8021B	57061
MB 880-57091/5-A	Method Blank	Total/NA	Solid	8021B	57091
LCS 880-57091/1-A	Lab Control Sample	Total/NA	Solid	8021B	57091
LCSD 880-57091/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	57091
890-4891-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	57091
890-4891-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	57091

Prep Batch: 57061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-57061/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 57091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-1	BH23-27_0'	Total/NA	Solid	5035	
890-4889-2	BH23-27_2'	Total/NA	Solid	5035	
MB 880-57091/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-57091/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-57091/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4891-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-4891-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 57118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-3	BH23-28_0'	Total/NA	Solid	8021B	57125
890-4889-4	BH23-28_2'	Total/NA	Solid	8021B	57125
MB 880-57125/5-A	Method Blank	Total/NA	Solid	8021B	57125
LCS 880-57125/1-A	Lab Control Sample	Total/NA	Solid	8021B	57125
LCSD 880-57125/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	57125
880-30420-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	57125
880-30420-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	57125

Prep Batch: 57125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-3	BH23-28_0'	Total/NA	Solid	5035	
890-4889-4	BH23-28_2'	Total/NA	Solid	5035	
MB 880-57125/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-57125/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-57125/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30420-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-30420-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 57142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-1	BH23-27_0'	Total/NA	Solid	Total BTEX	
890-4889-2	BH23-27_2'	Total/NA	Solid	Total BTEX	
890-4889-3	BH23-28_0'	Total/NA	Solid	Total BTEX	
890-4889-4	BH23-28_2'	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

GC Semi VOA

Analysis Batch: 57372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-1	BH23-27_0'	Total/NA	Solid	8015B NM	57388
890-4889-2	BH23-27_2'	Total/NA	Solid	8015B NM	57388
890-4889-3	BH23-28_0'	Total/NA	Solid	8015B NM	57388
890-4889-4	BH23-28_2'	Total/NA	Solid	8015B NM	57388
MB 880-57388/1-A	Method Blank	Total/NA	Solid	8015B NM	57388
LCS 880-57388/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	57388
LCSD 880-57388/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	57388
890-4896-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	57388
890-4896-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	57388

Prep Batch: 57388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-1	BH23-27_0'	Total/NA	Solid	8015NM Prep	
890-4889-2	BH23-27_2'	Total/NA	Solid	8015NM Prep	
890-4889-3	BH23-28_0'	Total/NA	Solid	8015NM Prep	
890-4889-4	BH23-28_2'	Total/NA	Solid	8015NM Prep	
MB 880-57388/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-57388/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-57388/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4896-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4896-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 57436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-1	BH23-27_0'	Total/NA	Solid	8015 NM	
890-4889-2	BH23-27_2'	Total/NA	Solid	8015 NM	
890-4889-3	BH23-28_0'	Total/NA	Solid	8015 NM	
890-4889-4	BH23-28_2'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 56948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-1	BH23-27_0'	Soluble	Solid	DI Leach	
890-4889-2	BH23-27_2'	Soluble	Solid	DI Leach	
890-4889-3	BH23-28_0'	Soluble	Solid	DI Leach	
890-4889-4	BH23-28_2'	Soluble	Solid	DI Leach	
MB 880-56948/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-56948/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-56948/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 57082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4889-1	BH23-27_0'	Soluble	Solid	300.0	56948
890-4889-2	BH23-27_2'	Soluble	Solid	300.0	56948
890-4889-3	BH23-28_0'	Soluble	Solid	300.0	56948
890-4889-4	BH23-28_2'	Soluble	Solid	300.0	56948
MB 880-56948/1-A	Method Blank	Soluble	Solid	300.0	56948
LCS 880-56948/2-A	Lab Control Sample	Soluble	Solid	300.0	56948
LCSD 880-56948/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	56948

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Client Sample ID: BH23-27_0'
Date Collected: 06/30/23 11:00
Date Received: 06/30/23 15:50

Lab Sample ID: 890-4889-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	57091	07/06/23 12:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57056	07/07/23 09:32	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57142	07/07/23 10:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			57436	07/11/23 18:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	57388	07/11/23 10:04	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57372	07/11/23 15:03	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	56948	07/05/23 08:45	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	57082	07/06/23 12:40	CH	EET MID

Client Sample ID: BH23-27_2'
Date Collected: 06/30/23 11:05
Date Received: 06/30/23 15:50

Lab Sample ID: 890-4889-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	57091	07/06/23 12:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57056	07/07/23 09:52	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57142	07/07/23 10:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			57436	07/11/23 18:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	57388	07/11/23 10:04	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57372	07/11/23 15:25	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	56948	07/05/23 08:45	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	57082	07/06/23 12:45	CH	EET MID

Client Sample ID: BH23-28_0'
Date Collected: 06/30/23 11:40
Date Received: 06/30/23 15:50

Lab Sample ID: 890-4889-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	57125	07/07/23 09:28	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57118	07/07/23 15:30	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57142	07/07/23 16:08	SM	EET MID
Total/NA	Analysis	8015 NM		1			57436	07/11/23 18:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	57388	07/11/23 10:04	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57372	07/11/23 15:48	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	56948	07/05/23 08:45	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	57082	07/06/23 12:50	CH	EET MID

Client Sample ID: BH23-28_2'
Date Collected: 06/30/23 11:45
Date Received: 06/30/23 15:50

Lab Sample ID: 890-4889-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	57125	07/07/23 09:28	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57118	07/07/23 15:55	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57142	07/10/23 15:18	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Client Sample ID: BH23-28_2'

Date Collected: 06/30/23 11:45
Date Received: 06/30/23 15:50

Lab Sample ID: 890-4889-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			57436	07/11/23 18:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	57388	07/11/23 10:04	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57372	07/11/23 16:12	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	56948	07/05/23 08:45	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	57082	07/06/23 13:06	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-4889-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4889-1	BH23-27_0'	Solid	06/30/23 11:00	06/30/23 15:50	0
890-4889-2	BH23-27_2'	Solid	06/30/23 11:05	06/30/23 15:50	2
890-4889-3	BH23-28_0'	Solid	06/30/23 11:40	06/30/23 15:50	0
890-4889-4	BH23-28_2'	Solid	06/30/23 11:45	06/30/23 15:50	2

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Chain of Custody

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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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Chanle Dixon	Bill to: (If different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	CDixon@Vertex.ca/ analytical@Vertex.ca	

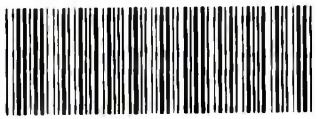
Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	S. Reta	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	14.6
Total Containers:		Corrected Temperature:	14.4

ANALYSIS REQUEST



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	Grab/ Comp	# of Cont	Parameters: TPH	BTEX	Cl	Sample Comments
BH23-27 0'	Soil	06/30/23	11:00	0'			X	X	X	
BH23-27 2'	Soil	06/30/23	11:05	2'			X	X	X	
BH23-28 0'	Soil	06/30/23	11:40	0'			X	X	X	
BH23-28 2'	Soil	06/30/23	11:45	2'			X	X	X	

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 S. Reta	Alex Cuz	6-30-23 1550			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM
Released to Imaging: 3/19/2024 9:29:09 AM
7/11/2023
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Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4889-1
SDG Number: 23E-03626

Login Number: 4889
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-4889-1
SDG Number: 23E-03626

Login Number: 4889
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/06/23 10:57 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	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/2/2023 9:07:18 AM

JOB DESCRIPTION

CARLETON SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-4961-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

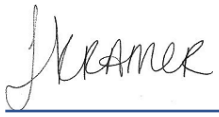
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
8/2/2023 9:07:18 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: CARLETON SWD

Laboratory Job ID: 890-4961-1
SDG: 23E-03626

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Definitions/Glossary

Client: Vertex Job ID: 890-4961-1
Project/Site: CARLETON SWD SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

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/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

Job ID: 890-4961-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4961-1

Receipt
The samples were received on 7/18/2023 2:32 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-29 0' (890-4961-1) and BH23-29 2' (890-4961-2).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (CCV 880-58416/33). Evidence of matrix interferences is not obvious.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-58416 recovered above the upper control limit for Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-58416/33).

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (MB 880-58485/1-A) and (880-30743-A-1-G). Evidence of matrix interferences is not obvious.

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: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-58093 and analytical batch 880-58178 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control 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.

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

Client Sample ID: BH23-29 0'

Lab Sample ID: 890-4961-1
Matrix: Solid
Date Collected: 07/18/23 09:00
Date Received: 07/18/23 14:32
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 18:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 18:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 18:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/25/23 11:03	07/25/23 18:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/25/23 11:03	07/25/23 18:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*07/25/23 11:03*	*07/25/23 18:46*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*07/25/23 11:03*	*07/25/23 18:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			07/26/23 09:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/02/23 09:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		07/25/23 14:17	08/01/23 17:24	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		07/25/23 14:17	08/01/23 17:24	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		07/25/23 14:17	08/01/23 17:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*07/25/23 14:17*	*08/01/23 17:24*	*1*
o-Terphenyl	*102*		*70 - 130*	*07/25/23 14:17*	*08/01/23 17:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**55.2**		4.99		mg/Kg			07/21/23 03:11	1

Client Sample ID: BH23-29 2'

Lab Sample ID: 890-4961-2
Matrix: Solid
Date Collected: 07/18/23 09:05
Date Received: 07/18/23 14:32
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 19:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 19:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 19:07	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/25/23 11:03	07/25/23 19:07	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/25/23 11:03	07/25/23 19:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*07/25/23 11:03*	*07/25/23 19:07*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

Client Sample ID: BH23-29 2'
Date Collected: 07/18/23 09:05
Date Received: 07/18/23 14:32
Sample Depth: 2

Lab Sample ID: 890-4961-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*07/25/23 11:03*	*07/25/23 19:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/26/23 09:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/02/23 09:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		07/25/23 14:17	08/01/23 17:46	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		07/25/23 14:17	08/01/23 17:46	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		07/25/23 14:17	08/01/23 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*07/25/23 14:17*	*08/01/23 17:46*	*1*
o-Terphenyl	*106*		*70 - 130*	*07/25/23 14:17*	*08/01/23 17:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**54.2**		5.01		mg/Kg			07/21/23 03:16	1

Surrogate Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4961-1	BH23-29 0'	110	113
890-4961-2	BH23-29 2'	104	108
890-4986-A-1-D MS	Matrix Spike	107	99
890-4986-A-1-E MSD	Matrix Spike Duplicate	101	105
LCS 880-58465/1-A	Lab Control Sample	106	101
LCSD 880-58465/2-A	Lab Control Sample Dup	113	101
MB 880-58465/5-A	Method Blank	93	92

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-30743-A-1-H MS	Matrix Spike	122	94
880-30743-A-1-I MSD	Matrix Spike Duplicate	124	97
890-4961-1	BH23-29 0'	120	102
890-4961-2	BH23-29 2'	126	106
LCS 880-58485/2-A	Lab Control Sample	114	111
LCSD 880-58485/3-A	Lab Control Sample Dup	113	111
MB 880-58485/1-A	Method Blank	179 S1+	155 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-58465/5-A
Matrix: Solid
Analysis Batch: 58416

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58465

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 13:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 13:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 13:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/25/23 11:03	07/25/23 13:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/25/23 11:03	07/25/23 13:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/25/23 11:03	07/25/23 13:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*07/25/23 11:03*	*07/25/23 13:12*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*07/25/23 11:03*	*07/25/23 13:12*	*1*

Lab Sample ID: LCS 880-58465/1-A
Matrix: Solid
Analysis Batch: 58416

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58465

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1076		mg/Kg		108	70 - 130		
Ethylbenzene			0.100	0.09767		mg/Kg		98	70 - 130		
Toluene			0.100	0.1087		mg/Kg		109	70 - 130		
m-Xylene & p-Xylene			0.200	0.1853		mg/Kg		93	70 - 130		
o-Xylene			0.100	0.09272		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-58465/2-A
Matrix: Solid
Analysis Batch: 58416

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58465

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1009		mg/Kg		101	70 - 130	6	35
Ethylbenzene			0.100	0.09183		mg/Kg		92	70 - 130	6	35
Toluene			0.100	0.1030		mg/Kg		103	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.1736		mg/Kg		87	70 - 130	7	35
o-Xylene			0.100	0.08555		mg/Kg		86	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 890-4986-A-1-D MS
Matrix: Solid
Analysis Batch: 58416

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0992	0.08916		mg/Kg		90	70 - 130		
Ethylbenzene	<0.00199	U	0.0992	0.08636		mg/Kg		87	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

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

Lab Sample ID: 890-4986-A-1-D MS
Matrix: Solid
Analysis Batch: 58416

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00199	U	0.0992	0.09439		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1660		mg/Kg		84	70 - 130
o-Xylene	<0.00199	U	0.0992	0.08230		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-4986-A-1-E MSD
Matrix: Solid
Analysis Batch: 58416

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 58465

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.1231		mg/Kg		124	70 - 130	32	35
Ethylbenzene	<0.00199	U	0.0990	0.1037		mg/Kg		105	70 - 130	18	35
Toluene	<0.00199	U	0.0990	0.1184		mg/Kg		120	70 - 130	23	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1942		mg/Kg		98	70 - 130	16	35
o-Xylene	<0.00199	U	0.0990	0.09638		mg/Kg		97	70 - 130	16	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-58485/1-A
Matrix: Solid
Analysis Batch: 58960

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58485

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/25/23 14:17	08/01/23 07:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/23 14:17	08/01/23 07:24	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/23 14:17	08/01/23 07:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*179*	*S1+*	*70 - 130*	*07/25/23 14:17*	*08/01/23 07:24*	*1*
o-Terphenyl	*155*	*S1+*	*70 - 130*	*07/25/23 14:17*	*08/01/23 07:24*	*1*

Lab Sample ID: LCS 880-58485/2-A
Matrix: Solid
Analysis Batch: 58960

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58485

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1062		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1082		mg/Kg		108	70 - 130

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

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

Lab Sample ID: LCS 880-58485/2-A
Matrix: Solid
Analysis Batch: 58960

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58485

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: LCSD 880-58485/3-A
Matrix: Solid
Analysis Batch: 58960

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58485

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1024		mg/Kg		102	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1101		mg/Kg		110	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: 880-30743-A-1-H MS
Matrix: Solid
Analysis Batch: 58960

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58485

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	993	874.0		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	<50.3	U	993	1175		mg/Kg		115	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	122		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: 880-30743-A-1-I MSD
Matrix: Solid
Analysis Batch: 58960

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 58485

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	993	873.6		mg/Kg		83	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.3	U	993	1199		mg/Kg		117	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	124		70 - 130
o-Terphenyl	97		70 - 130

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-58093/1-A
Matrix: Solid
Analysis Batch: 58178

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/21/23 00:53	1

Lab Sample ID: LCS 880-58093/2-A
Matrix: Solid
Analysis Batch: 58178

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.6		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-58093/3-A
Matrix: Solid
Analysis Batch: 58178

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	245.9		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 880-30984-A-1-B MS
Matrix: Solid
Analysis Batch: 58178

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	688	F1	252	895.0	F1	mg/Kg		82	90 - 110		

Lab Sample ID: 880-30984-A-1-C MSD
Matrix: Solid
Analysis Batch: 58178

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	688	F1	252	902.8	F1	mg/Kg		85	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

GC VOA

Analysis Batch: 58416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4961-1	BH23-29 0'	Total/NA	Solid	8021B	58465
890-4961-2	BH23-29 2'	Total/NA	Solid	8021B	58465
MB 880-58465/5-A	Method Blank	Total/NA	Solid	8021B	58465
LCS 880-58465/1-A	Lab Control Sample	Total/NA	Solid	8021B	58465
LCSD 880-58465/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	58465
890-4986-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	58465
890-4986-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	58465

Prep Batch: 58465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4961-1	BH23-29 0'	Total/NA	Solid	5035	
890-4961-2	BH23-29 2'	Total/NA	Solid	5035	
MB 880-58465/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-58465/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-58465/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4986-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-4986-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 58527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4961-1	BH23-29 0'	Total/NA	Solid	Total BTEX	
890-4961-2	BH23-29 2'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 58485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4961-1	BH23-29 0'	Total/NA	Solid	8015NM Prep	
890-4961-2	BH23-29 2'	Total/NA	Solid	8015NM Prep	
MB 880-58485/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-58485/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-58485/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-30743-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-30743-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 58960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4961-1	BH23-29 0'	Total/NA	Solid	8015B NM	58485
890-4961-2	BH23-29 2'	Total/NA	Solid	8015B NM	58485
MB 880-58485/1-A	Method Blank	Total/NA	Solid	8015B NM	58485
LCS 880-58485/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	58485
LCSD 880-58485/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	58485
880-30743-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	58485
880-30743-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	58485

Analysis Batch: 59090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4961-1	BH23-29 0'	Total/NA	Solid	8015 NM	
890-4961-2	BH23-29 2'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

HPLC/IC

Leach Batch: 58093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4961-1	BH23-29 0'	Soluble	Solid	DI Leach	
890-4961-2	BH23-29 2'	Soluble	Solid	DI Leach	
MB 880-58093/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-58093/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-58093/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-30984-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-30984-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 58178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4961-1	BH23-29 0'	Soluble	Solid	300.0	58093
890-4961-2	BH23-29 2'	Soluble	Solid	300.0	58093
MB 880-58093/1-A	Method Blank	Soluble	Solid	300.0	58093
LCS 880-58093/2-A	Lab Control Sample	Soluble	Solid	300.0	58093
LCSD 880-58093/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	58093
880-30984-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	58093
880-30984-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	58093

Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

Client Sample ID: BH23-29 0'
Date Collected: 07/18/23 09:00
Date Received: 07/18/23 14:32

Lab Sample ID: 890-4961-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	58465	07/25/23 11:03	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58416	07/25/23 18:46	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58527	07/26/23 09:30	SM	EET MID
Total/NA	Analysis	8015 NM		1			59090	08/02/23 09:46	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	58485	07/25/23 14:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58960	08/01/23 17:24	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	58093	07/20/23 15:00	KS	EET MID
Soluble	Analysis	300.0		1			58178	07/21/23 03:11	CH	EET MID

Client Sample ID: BH23-29 2'
Date Collected: 07/18/23 09:05
Date Received: 07/18/23 14:32

Lab Sample ID: 890-4961-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	58465	07/25/23 11:03	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58416	07/25/23 19:07	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58527	07/26/23 09:30	SM	EET MID
Total/NA	Analysis	8015 NM		1			59090	08/02/23 09:46	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	58485	07/25/23 14:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58960	08/01/23 17:46	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	58093	07/20/23 15:00	KS	EET MID
Soluble	Analysis	300.0		1			58178	07/21/23 03:16	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-4961-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4961-1	BH23-29 0'	Solid	07/18/23 09:00	07/18/23 14:32	0
890-4961-2	BH23-29 2'	Solid	07/18/23 09:05	07/18/23 14:32	2

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8/2/2023

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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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TMM07	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.2	
Total Containers:		Corrected Temperature:	3.0	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	TPH	BTEX	Cl
BH23-29 0'	Soil	7/18/23	9:00					X	X	X
BH23-29 2'	Soil	7/18/23	9:05					X	X	X

ANALYSIS REQUEST

890-4961 Chain of Custody

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 Hunter Klein		7.18.23 1432			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

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Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1376 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-4961-1
Address: 1211 W Florida Ave	Due Date Requested: 7/24/2023			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: CARLETON SWD	Project #: 89000162			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B - NaOH, C Zn Acetate, D - Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H - Ascorbic Acid, I Ice, J - DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note
			Preservation Code:										
BH23-29 0' (890-4961-1)	7/18/23	09 00 Mountain		Solid			X	X	X	X	X	1	
BH23-29 2' (890-4961-2)	7/18/23	09 05 Mountain		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment
Relinquished by: Clee	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Received by OCD: 10/13/2023 12:00:18 AM
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8/2/2023
Released to Imaging: 3/19/2024 9:29:09 AM

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4961-1
SDG Number: 23E-03626

Login Number: 4961
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-4961-1
SDG Number: 23E-03626

Login Number: 4961
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 07/20/23 04:01 PM

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.	True	
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	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/28/2023 9:49:05 PM

JOB DESCRIPTION

Carleton SWD
SDG NUMBER 2E-03626

JOB NUMBER

890-5113-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

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my EOL

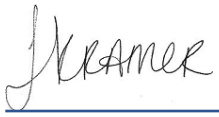
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
8/28/2023 9:49:05 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-5113-1
SDG: 2E-03626

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Definitions/Glossary

Client: Vertex Job ID: 890-5113-1
Project/Site: Carleton SWD SDG: 2E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Job ID: 890-5113-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5113-1

Receipt
The samples were received on 8/16/2023 4:15 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 11.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BES23-01 3' (890-5113-1), BES23-02 3' (890-5113-2), BES23-03 3' (890-5113-3), BES23-04 1' (890-5113-4), BES23-05 1' (890-5113-5), BES23-06 1' (890-5113-6), BES23-07 1' (890-5113-7), BES23-08 1' (890-5113-8), BES23-09 1' (890-5113-9), BES23-10 1' (890-5113-10), BES23-11 1' (890-5113-11), BES23-12 1' (890-5113-12), BES23-13 1' (890-5113-13), BES23-14 1' (890-5113-14), BES23-15 1' (890-5113-15), BES23-16 1' (890-5113-16), BES23-17 1' (890-5113-17), BES23-18 1' (890-5113-18), BES23-19 1' (890-5113-19), BES23-20 1' (890-5113-20), BES23-21 1' (890-5113-21), BES23-22 1' (890-5113-22), BES23-23 1' (890-5113-23) and BES23-24 1' (890-5113-24).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCS 880-61051/1-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BES23-15 1' (890-5113-15), BES23-18 1' (890-5113-18), BES23-19 1' (890-5113-19) and BES23-20 1' (890-5113-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-61051 and analytical batch 880-61057 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: The LCSD was biased low for ethylbenzene and o xylene. The LCS was acceptable; therefore the data was qualified and reported.(LCSD 880-61050/2-A)

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61050 and analytical batch 880-61058 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-61050/5-A). Evidence of matrix interferences is not obvious.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61029 and 880-61031 and analytical batch 880-61042 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-01 3' (890-5113-1), BES23-02 3' (890-5113-2), BES23-03 3' (890-5113-3), BES23-05 1' (890-5113-5), BES23-06 1' (890-5113-6), BES23-07 1' (890-5113-7), BES23-08 1' (890-5113-8), BES23-09 1' (890-5113-9), BES23-10 1' (890-5113-10), (890-5113-A-1-E MS) and (890-5113-A-1-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-11 1' (890-5113-11), BES23-12 1' (890-5113-12), BES23-13 1' (890-5113-13) and BES23-14 1' (890-5113-14). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-17 1' (890-5113-17), BES23-18 1'

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Case Narrative

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Job ID: 890-5113-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

(890-5113-18), BES23-19 1' (890-5113-19) and BES23-20 1' (890-5113-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-21 1' (890-5113-21), BES23-22 1' (890-5113-22), BES23-23 1' (890-5113-23), BES23-24 1' (890-5113-24), (890-5113-A-21-C MS) and (890-5113-A-21-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-61042/20), (CCV 880-61042/31), (CCV 880-61042/47), (CCV 880-61042/5), (LCS 880-61029/2-A), (LCS 880-61031/2-A), (LCSD 880-61029/3-A) and (LCSD 880-61031/3-A). Evidence of matrix interferences is not obvious.

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: The continuing calibration blank (CCB) for analytical batch 880-60730 contained Chloride above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-01 3'

Lab Sample ID: 890-5113-1
Matrix: Solid
Date Collected: 08/16/23 08:00
Date Received: 08/16/23 16:15
Sample Depth: 3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:09	08/25/23 18:38	1
Ethylbenzene	<0.00199	U *-	0.00199		mg/Kg		08/25/23 08:09	08/25/23 18:38	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:09	08/25/23 18:38	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/25/23 08:09	08/25/23 18:38	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/25/23 08:09	08/25/23 18:38	1
o-Xylene	<0.00199	U *-	0.00199		mg/Kg		08/25/23 08:09	08/25/23 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*08/25/23 08:09*	*08/25/23 18:38*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*08/25/23 08:09*	*08/25/23 18:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/24/23 16:30	08/25/23 11:54	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/24/23 16:30	08/25/23 11:54	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/24/23 16:30	08/25/23 11:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 11:54*	*1*
o-Terphenyl	*113*		*70 - 130*	*08/24/23 16:30*	*08/25/23 11:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**71.8**		4.95		mg/Kg			08/21/23 09:02	1

Client Sample ID: BES23-02 3'

Lab Sample ID: 890-5113-2
Matrix: Solid
Date Collected: 08/16/23 08:05
Date Received: 08/16/23 16:15
Sample Depth: 3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:09	08/25/23 18:59	1
Ethylbenzene	<0.00198	U *-	0.00198		mg/Kg		08/25/23 08:09	08/25/23 18:59	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:09	08/25/23 18:59	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/25/23 08:09	08/25/23 18:59	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/25/23 08:09	08/25/23 18:59	1
o-Xylene	<0.00198	U *-	0.00198		mg/Kg		08/25/23 08:09	08/25/23 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*08/25/23 08:09*	*08/25/23 18:59*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-02 3'

Date Collected: 08/16/23 08:05
Date Received: 08/16/23 16:15
Sample Depth: 3

Lab Sample ID: 890-5113-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*	*08/25/23 08:09*	*08/25/23 18:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/24/23 16:30	08/25/23 12:59	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/24/23 16:30	08/25/23 12:59	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/24/23 16:30	08/25/23 12:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 12:59*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/24/23 16:30*	*08/25/23 12:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**93.8**		4.99		mg/Kg			08/21/23 09:22	1

Client Sample ID: BES23-03 3'

Date Collected: 08/16/23 08:10
Date Received: 08/16/23 16:15
Sample Depth: 3

Lab Sample ID: 890-5113-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:09	08/25/23 19:20	1
Ethylbenzene	<0.00201	U *-	0.00201		mg/Kg		08/25/23 08:09	08/25/23 19:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:09	08/25/23 19:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/25/23 08:09	08/25/23 19:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/25/23 08:09	08/25/23 19:20	1
o-Xylene	<0.00201	U *-	0.00201		mg/Kg		08/25/23 08:09	08/25/23 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*08/25/23 08:09*	*08/25/23 19:20*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*08/25/23 08:09*	*08/25/23 19:20*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/28/23 22:20	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-03 3'

Lab Sample ID: 890-5113-3
Matrix: Solid
Date Collected: 08/16/23 08:10
Date Received: 08/16/23 16:15
Sample Depth: 3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/24/23 16:30	08/25/23 13:21	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/24/23 16:30	08/25/23 13:21	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/24/23 16:30	08/25/23 13:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 13:21*	*1*
o-Terphenyl	*108*		*70 - 130*	*08/24/23 16:30*	*08/25/23 13:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**96.8**		4.96		mg/Kg			08/21/23 09:29	1

Client Sample ID: BES23-04 1'

Lab Sample ID: 890-5113-4
Matrix: Solid
Date Collected: 08/16/23 08:15
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:09	08/25/23 19:40	1
Ethylbenzene	<0.00201	U *-	0.00201		mg/Kg		08/25/23 08:09	08/25/23 19:40	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:09	08/25/23 19:40	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/25/23 08:09	08/25/23 19:40	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/25/23 08:09	08/25/23 19:40	1
o-Xylene	<0.00201	U *-	0.00201		mg/Kg		08/25/23 08:09	08/25/23 19:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/25/23 08:09*	*08/25/23 19:40*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*08/25/23 08:09*	*08/25/23 19:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/24/23 16:30	08/25/23 13:42	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/24/23 16:30	08/25/23 13:42	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/24/23 16:30	08/25/23 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*08/24/23 16:30*	*08/25/23 13:42*	*1*
o-Terphenyl	*93*		*70 - 130*	*08/24/23 16:30*	*08/25/23 13:42*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-04 1'

Lab Sample ID: 890-5113-4
Matrix: Solid
Date Collected: 08/16/23 08:15
Date Received: 08/16/23 16:15
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	124		5.04		mg/Kg			08/21/23 09:35	1

Client Sample ID: BES23-05 1'

Lab Sample ID: 890-5113-5
Matrix: Solid
Date Collected: 08/16/23 08:20
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:09	08/25/23 20:01	1
Ethylbenzene	<0.00202	U *-	0.00202		mg/Kg		08/25/23 08:09	08/25/23 20:01	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:09	08/25/23 20:01	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/25/23 08:09	08/25/23 20:01	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/25/23 08:09	08/25/23 20:01	1
o-Xylene	<0.00202	U *-	0.00202		mg/Kg		08/25/23 08:09	08/25/23 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/25/23 08:09*	*08/25/23 20:01*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*08/25/23 08:09*	*08/25/23 20:01*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/24/23 16:30	08/25/23 14:04	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/24/23 16:30	08/25/23 14:04	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/24/23 16:30	08/25/23 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 14:04*	*1*
o-Terphenyl	*114*		*70 - 130*	*08/24/23 16:30*	*08/25/23 14:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51.4		5.00		mg/Kg			08/21/23 09:42	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-06 1'

Date Collected: 08/16/23 08:25
Date Received: 08/16/23 16:15
Sample Depth: 1

Lab Sample ID: 890-5113-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:09	08/25/23 20:22	1
Ethylbenzene	<0.00200	U *-	0.00200		mg/Kg		08/25/23 08:09	08/25/23 20:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:09	08/25/23 20:22	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/25/23 08:09	08/25/23 20:22	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/25/23 08:09	08/25/23 20:22	1
o-Xylene	<0.00200	U *-	0.00200		mg/Kg		08/25/23 08:09	08/25/23 20:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/25/23 08:09*	*08/25/23 20:22*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*08/25/23 08:09*	*08/25/23 20:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/24/23 16:30	08/25/23 14:26	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/24/23 16:30	08/25/23 14:26	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/24/23 16:30	08/25/23 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 14:26*	*1*
o-Terphenyl	*108*		*70 - 130*	*08/24/23 16:30*	*08/25/23 14:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**86.6**		4.97		mg/Kg			08/21/23 10:02	1

Client Sample ID: BES23-07 1'

Date Collected: 08/16/23 08:30
Date Received: 08/16/23 16:15
Sample Depth: 1

Lab Sample ID: 890-5113-7

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:09	08/25/23 20:43	1
Ethylbenzene	<0.00198	U *-	0.00198		mg/Kg		08/25/23 08:09	08/25/23 20:43	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:09	08/25/23 20:43	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/25/23 08:09	08/25/23 20:43	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/25/23 08:09	08/25/23 20:43	1
o-Xylene	<0.00198	U *-	0.00198		mg/Kg		08/25/23 08:09	08/25/23 20:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/25/23 08:09*	*08/25/23 20:43*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-07 1'

Lab Sample ID: 890-5113-7
Matrix: Solid
Date Collected: 08/16/23 08:30
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*08/25/23 08:09*	*08/25/23 20:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/24/23 16:30	08/25/23 14:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/24/23 16:30	08/25/23 14:47	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/24/23 16:30	08/25/23 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 14:47*	*1*
o-Terphenyl	*109*		*70 - 130*	*08/24/23 16:30*	*08/25/23 14:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**118**		4.96		mg/Kg			08/21/23 10:08	1

Client Sample ID: BES23-08 1'

Lab Sample ID: 890-5113-8
Matrix: Solid
Date Collected: 08/16/23 08:35
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:09	08/25/23 21:03	1
Ethylbenzene	<0.00199	U *-	0.00199		mg/Kg		08/25/23 08:09	08/25/23 21:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:09	08/25/23 21:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/25/23 08:09	08/25/23 21:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/25/23 08:09	08/25/23 21:03	1
o-Xylene	<0.00199	U *-	0.00199		mg/Kg		08/25/23 08:09	08/25/23 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/25/23 08:09*	*08/25/23 21:03*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*08/25/23 08:09*	*08/25/23 21:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/28/23 22:20	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-08 1'

Lab Sample ID: 890-5113-8
Matrix: Solid
Date Collected: 08/16/23 08:35
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/24/23 16:30	08/25/23 15:09	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/24/23 16:30	08/25/23 15:09	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/24/23 16:30	08/25/23 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*146*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 15:09*	*1*
o-Terphenyl	*116*		*70 - 130*	*08/24/23 16:30*	*08/25/23 15:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**154**		4.97		mg/Kg			08/21/23 10:15	1

Client Sample ID: BES23-09 1'

Lab Sample ID: 890-5113-9
Matrix: Solid
Date Collected: 08/16/23 08:40
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:09	08/25/23 21:24	1
Ethylbenzene	<0.00198	U *-	0.00198		mg/Kg		08/25/23 08:09	08/25/23 21:24	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:09	08/25/23 21:24	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/25/23 08:09	08/25/23 21:24	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/25/23 08:09	08/25/23 21:24	1
o-Xylene	<0.00198	U *-	0.00198		mg/Kg		08/25/23 08:09	08/25/23 21:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*08/25/23 08:09*	*08/25/23 21:24*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*08/25/23 08:09*	*08/25/23 21:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/24/23 16:30	08/25/23 15:31	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/24/23 16:30	08/25/23 15:31	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/24/23 16:30	08/25/23 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 15:31*	*1*
o-Terphenyl	*114*		*70 - 130*	*08/24/23 16:30*	*08/25/23 15:31*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-09 1'

Lab Sample ID: 890-5113-9
Matrix: Solid
Date Collected: 08/16/23 08:40
Date Received: 08/16/23 16:15
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	176		5.03		mg/Kg			08/21/23 10:22	1

Client Sample ID: BES23-10 1'

Lab Sample ID: 890-5113-10
Matrix: Solid
Date Collected: 08/16/23 08:45
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:09	08/25/23 21:45	1
Ethylbenzene	<0.00202	U *-	0.00202		mg/Kg		08/25/23 08:09	08/25/23 21:45	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:09	08/25/23 21:45	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/25/23 08:09	08/25/23 21:45	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/25/23 08:09	08/25/23 21:45	1
o-Xylene	<0.00202	U *-	0.00202		mg/Kg		08/25/23 08:09	08/25/23 21:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*08/25/23 08:09*	*08/25/23 21:45*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*08/25/23 08:09*	*08/25/23 21:45*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/24/23 16:30	08/25/23 15:53	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/24/23 16:30	08/25/23 15:53	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/24/23 16:30	08/25/23 15:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 15:53*	*1*
o-Terphenyl	*106*		*70 - 130*	*08/24/23 16:30*	*08/25/23 15:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	73.2		5.05		mg/Kg			08/21/23 10:28	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-11 1'

Lab Sample ID: 890-5113-11
Matrix: Solid
Date Collected: 08/16/23 08:50
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:20	08/25/23 17:40	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:20	08/25/23 17:40	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:20	08/25/23 17:40	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		08/25/23 08:20	08/25/23 17:40	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		08/25/23 08:20	08/25/23 17:40	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		08/25/23 08:20	08/25/23 17:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*08/25/23 08:20*	*08/25/23 17:40*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*08/25/23 08:20*	*08/25/23 17:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/24/23 16:30	08/25/23 16:42	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/24/23 16:30	08/25/23 16:42	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/24/23 16:30	08/25/23 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 16:42*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/24/23 16:30*	*08/25/23 16:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**89.4**		4.96		mg/Kg			08/21/23 10:35	1

Client Sample ID: BES23-12 1'

Lab Sample ID: 890-5113-12
Matrix: Solid
Date Collected: 08/16/23 08:55
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 18:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 18:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 18:00	1
Xylenes, Total	<0.00400	U *+	0.00400		mg/Kg		08/25/23 08:20	08/25/23 18:00	1
m-Xylene & p-Xylene	<0.00400	U *+	0.00400		mg/Kg		08/25/23 08:20	08/25/23 18:00	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		08/25/23 08:20	08/25/23 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*08/25/23 08:20*	*08/25/23 18:00*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-12 1'

Date Collected: 08/16/23 08:55
Date Received: 08/16/23 16:15
Sample Depth: 1

Lab Sample ID: 890-5113-12

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*08/25/23 08:20*	*08/25/23 18:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/24/23 16:30	08/25/23 17:03	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/24/23 16:30	08/25/23 17:03	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/24/23 16:30	08/25/23 17:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 17:03*	*1*
o-Terphenyl	*122*		*70 - 130*	*08/24/23 16:30*	*08/25/23 17:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**106**		4.99		mg/Kg			08/21/23 10:55	1

Client Sample ID: BES23-13 1'

Date Collected: 08/16/23 09:00
Date Received: 08/16/23 16:15
Sample Depth: 1

Lab Sample ID: 890-5113-13

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:20	08/25/23 18:21	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:20	08/25/23 18:21	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:20	08/25/23 18:21	1
Xylenes, Total	<0.00396	U *+	0.00396		mg/Kg		08/25/23 08:20	08/25/23 18:21	1
m-Xylene & p-Xylene	<0.00396	U *+	0.00396		mg/Kg		08/25/23 08:20	08/25/23 18:21	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		08/25/23 08:20	08/25/23 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/25/23 08:20*	*08/25/23 18:21*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*08/25/23 08:20*	*08/25/23 18:21*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/28/23 22:20	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-13 1'

Date Collected: 08/16/23 09:00
Date Received: 08/16/23 16:15
Sample Depth: 1

Lab Sample ID: 890-5113-13

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/24/23 16:30	08/25/23 17:25	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/24/23 16:30	08/25/23 17:25	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/24/23 16:30	08/25/23 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 17:25*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/24/23 16:30*	*08/25/23 17:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**169**		5.05		mg/Kg			08/21/23 11:01	1

Client Sample ID: BES23-14 1'

Date Collected: 08/16/23 09:05
Date Received: 08/16/23 16:15
Sample Depth: 1

Lab Sample ID: 890-5113-14

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:20	08/25/23 18:41	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:20	08/25/23 18:41	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:20	08/25/23 18:41	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		08/25/23 08:20	08/25/23 18:41	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		08/25/23 08:20	08/25/23 18:41	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		08/25/23 08:20	08/25/23 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*08/25/23 08:20*	*08/25/23 18:41*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*08/25/23 08:20*	*08/25/23 18:41*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/24/23 16:30	08/25/23 17:47	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/24/23 16:30	08/25/23 17:47	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/24/23 16:30	08/25/23 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 17:47*	*1*
o-Terphenyl	*106*		*70 - 130*	*08/24/23 16:30*	*08/25/23 17:47*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-14 1'

Lab Sample ID: 890-5113-14
Matrix: Solid
Date Collected: 08/16/23 09:05
Date Received: 08/16/23 16:15
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		4.98		mg/Kg			08/21/23 11:21	1

Client Sample ID: BES23-15 1'

Lab Sample ID: 890-5113-15
Matrix: Solid
Date Collected: 08/16/23 09:10
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:20	08/25/23 19:02	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:20	08/25/23 19:02	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:20	08/25/23 19:02	1
Xylenes, Total	<0.00404	U *+	0.00404		mg/Kg		08/25/23 08:20	08/25/23 19:02	1
m-Xylene & p-Xylene	<0.00404	U *+	0.00404		mg/Kg		08/25/23 08:20	08/25/23 19:02	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		08/25/23 08:20	08/25/23 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*08/25/23 08:20*	*08/25/23 19:02*	*1*
1,4-Difluorobenzene (Surr)	*57*	*S1-*	*70 - 130*	*08/25/23 08:20*	*08/25/23 19:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/24/23 16:30	08/25/23 18:09	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/24/23 16:30	08/25/23 18:09	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/24/23 16:30	08/25/23 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*08/24/23 16:30*	*08/25/23 18:09*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/24/23 16:30*	*08/25/23 18:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	104		4.97		mg/Kg			08/21/23 11:28	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-16 1'

Lab Sample ID: 890-5113-16
Matrix: Solid
Date Collected: 08/16/23 09:15
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 19:22	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 19:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 19:22	1
Xylenes, Total	<0.00401	U *+	0.00401		mg/Kg		08/25/23 08:20	08/25/23 19:22	1
m-Xylene & p-Xylene	<0.00401	U *+	0.00401		mg/Kg		08/25/23 08:20	08/25/23 19:22	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		08/25/23 08:20	08/25/23 19:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*08/25/23 08:20*	*08/25/23 19:22*	*1*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*08/25/23 08:20*	*08/25/23 19:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/24/23 16:30	08/25/23 18:31	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/24/23 16:30	08/25/23 18:31	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/24/23 16:30	08/25/23 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*08/24/23 16:30*	*08/25/23 18:31*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/24/23 16:30*	*08/25/23 18:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**73.5**		5.02		mg/Kg			08/21/23 11:35	1

Client Sample ID: BES23-17 1'

Lab Sample ID: 890-5113-17
Matrix: Solid
Date Collected: 08/16/23 09:20
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:20	08/25/23 19:42	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:20	08/25/23 19:42	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:20	08/25/23 19:42	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		08/25/23 08:20	08/25/23 19:42	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		08/25/23 08:20	08/25/23 19:42	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		08/25/23 08:20	08/25/23 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*08/25/23 08:20*	*08/25/23 19:42*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-17 1'

Lab Sample ID: 890-5113-17
Matrix: Solid
Date Collected: 08/16/23 09:20
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*08/25/23 08:20*	*08/25/23 19:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/24/23 16:30	08/25/23 18:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/23 16:30	08/25/23 18:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/23 16:30	08/25/23 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 18:52*	*1*
o-Terphenyl	*106*		*70 - 130*	*08/24/23 16:30*	*08/25/23 18:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**215**		4.95		mg/Kg			08/21/23 11:41	1

Client Sample ID: BES23-18 1'

Lab Sample ID: 890-5113-18
Matrix: Solid
Date Collected: 08/16/23 09:25
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:20	08/25/23 20:03	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:20	08/25/23 20:03	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:20	08/25/23 20:03	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		08/25/23 08:20	08/25/23 20:03	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		08/25/23 08:20	08/25/23 20:03	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		08/25/23 08:20	08/25/23 20:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*08/25/23 08:20*	*08/25/23 20:03*	*1*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*08/25/23 08:20*	*08/25/23 20:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5		mg/Kg			08/28/23 22:20	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-18 1'

Lab Sample ID: 890-5113-18
Matrix: Solid
Date Collected: 08/16/23 09:25
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5		mg/Kg		08/24/23 16:30	08/25/23 19:14	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5		mg/Kg		08/24/23 16:30	08/25/23 19:14	1
OII Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		08/24/23 16:30	08/25/23 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 19:14*	*1*
o-Terphenyl	*104*		*70 - 130*	*08/24/23 16:30*	*08/25/23 19:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**271**		5.01		mg/Kg			08/21/23 11:48	1

Client Sample ID: BES23-19 1'

Lab Sample ID: 890-5113-19
Matrix: Solid
Date Collected: 08/16/23 09:30
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:20	08/25/23 20:23	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:20	08/25/23 20:23	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:20	08/25/23 20:23	1
Xylenes, Total	<0.00403	U *+	0.00403		mg/Kg		08/25/23 08:20	08/25/23 20:23	1
m-Xylene & p-Xylene	<0.00403	U *+	0.00403		mg/Kg		08/25/23 08:20	08/25/23 20:23	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		08/25/23 08:20	08/25/23 20:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*08/25/23 08:20*	*08/25/23 20:23*	*1*
1,4-Difluorobenzene (Surr)	*54*	*S1-*	*70 - 130*	*08/25/23 08:20*	*08/25/23 20:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/24/23 16:30	08/25/23 19:36	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/24/23 16:30	08/25/23 19:36	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/24/23 16:30	08/25/23 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 19:36*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/24/23 16:30*	*08/25/23 19:36*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-19 1'

Lab Sample ID: 890-5113-19
Matrix: Solid
Date Collected: 08/16/23 09:30
Date Received: 08/16/23 16:15
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	280		5.05		mg/Kg			08/21/23 11:54	1

Client Sample ID: BES23-20 1'

Lab Sample ID: 890-5113-20
Matrix: Solid
Date Collected: 08/16/23 09:35
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:20	08/25/23 20:44	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:20	08/25/23 20:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/25/23 08:20	08/25/23 20:44	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		08/25/23 08:20	08/25/23 20:44	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		08/25/23 08:20	08/25/23 20:44	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		08/25/23 08:20	08/25/23 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*	*08/25/23 08:20*	*08/25/23 20:44*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*08/25/23 08:20*	*08/25/23 20:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/28/23 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/24/23 16:30	08/25/23 19:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/23 16:30	08/25/23 19:57	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/23 16:30	08/25/23 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*138*	*S1+*	*70 - 130*	*08/24/23 16:30*	*08/25/23 19:57*	*1*
o-Terphenyl	*111*		*70 - 130*	*08/24/23 16:30*	*08/25/23 19:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	229		5.04		mg/Kg			08/21/23 12:01	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-21 1'

Lab Sample ID: 890-5113-21
Matrix: Solid
Date Collected: 08/16/23 09:40
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:38	08/26/23 05:58	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:38	08/26/23 05:58	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:38	08/26/23 05:58	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/25/23 08:38	08/26/23 05:58	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/25/23 08:38	08/26/23 05:58	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:38	08/26/23 05:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*08/25/23 08:38*	*08/26/23 05:58*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*08/25/23 08:38*	*08/26/23 05:58*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/24/23 16:34	08/25/23 21:45	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/24/23 16:34	08/25/23 21:45	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/24/23 16:34	08/25/23 21:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*150*	*S1+*	*70 - 130*	*08/24/23 16:34*	*08/25/23 21:45*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/24/23 16:34*	*08/25/23 21:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**213**		4.96		mg/Kg			08/21/23 14:01	1

Client Sample ID: BES23-22 1'

Lab Sample ID: 890-5113-22
Matrix: Solid
Date Collected: 08/16/23 09:45
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:38	08/26/23 06:18	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:38	08/26/23 06:18	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:38	08/26/23 06:18	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/25/23 08:38	08/26/23 06:18	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/25/23 08:38	08/26/23 06:18	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/25/23 08:38	08/26/23 06:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*08/25/23 08:38*	*08/26/23 06:18*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-22 1'

Date Collected: 08/16/23 09:45
Date Received: 08/16/23 16:15
Sample Depth: 1

Lab Sample ID: 890-5113-22

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*08/25/23 08:38*	*08/26/23 06:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/24/23 16:34	08/25/23 22:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/23 16:34	08/25/23 22:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/23 16:34	08/25/23 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*158*	*S1+*	*70 - 130*	*08/24/23 16:34*	*08/25/23 22:49*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/24/23 16:34*	*08/25/23 22:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**91.0**		4.97		mg/Kg			08/21/23 14:07	1

Client Sample ID: BES23-23 1'

Date Collected: 08/16/23 09:50
Date Received: 08/16/23 16:15
Sample Depth: 1

Lab Sample ID: 890-5113-23

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:38	08/26/23 06:39	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:38	08/26/23 06:39	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:38	08/26/23 06:39	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/25/23 08:38	08/26/23 06:39	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/25/23 08:38	08/26/23 06:39	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/25/23 08:38	08/26/23 06:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/25/23 08:38*	*08/26/23 06:39*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*08/25/23 08:38*	*08/26/23 06:39*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/28/23 22:20	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-23 1'

Lab Sample ID: 890-5113-23
Matrix: Solid
Date Collected: 08/16/23 09:50
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/24/23 16:34	08/25/23 23:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/23 16:34	08/25/23 23:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/23 16:34	08/25/23 23:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*144*	*S1+*	*70 - 130*	*08/24/23 16:34*	*08/25/23 23:10*	*1*
o-Terphenyl	*117*		*70 - 130*	*08/24/23 16:34*	*08/25/23 23:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**196**		5.03		mg/Kg			08/21/23 14:14	1

Client Sample ID: BES23-24 1'

Lab Sample ID: 890-5113-24
Matrix: Solid
Date Collected: 08/16/23 09:55
Date Received: 08/16/23 16:15
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:38	08/26/23 07:00	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:38	08/26/23 07:00	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:38	08/26/23 07:00	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/25/23 08:38	08/26/23 07:00	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/25/23 08:38	08/26/23 07:00	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/25/23 08:38	08/26/23 07:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*08/25/23 08:38*	*08/26/23 07:00*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*08/25/23 08:38*	*08/26/23 07:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/28/23 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/28/23 22:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/24/23 16:34	08/25/23 23:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/24/23 16:34	08/25/23 23:31	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/24/23 16:34	08/25/23 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*144*	*S1+*	*70 - 130*	*08/24/23 16:34*	*08/25/23 23:31*	*1*
o-Terphenyl	*114*		*70 - 130*	*08/24/23 16:34*	*08/25/23 23:31*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-24 1'
Date Collected: 08/16/23 09:55
Date Received: 08/16/23 16:15
Sample Depth: 1

Lab Sample ID: 890-5113-24
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	92.2		5.05		mg/Kg			08/21/23 14:21	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-32509-A-1-D MS	Matrix Spike	86	100										
880-32509-A-1-E MSD	Matrix Spike Duplicate	80	105										
880-32511-A-1-B MS	Matrix Spike	112	119										
880-32511-A-1-C MSD	Matrix Spike Duplicate	124	112										
880-32541-A-1-A MS	Matrix Spike	86	103										
880-32541-A-1-B MSD	Matrix Spike Duplicate	101	111										
890-5113-1	BES23-01 3'	72	113										
890-5113-2	BES23-02 3'	78	120										
890-5113-3	BES23-03 3'	78	117										
890-5113-4	BES23-04 1'	85	118										
890-5113-5	BES23-05 1'	83	114										
890-5113-6	BES23-06 1'	85	119										
890-5113-7	BES23-07 1'	85	118										
890-5113-8	BES23-08 1'	83	116										
890-5113-9	BES23-09 1'	81	115										
890-5113-10	BES23-10 1'	87	117										
890-5113-11	BES23-11 1'	90	79										
890-5113-12	BES23-12 1'	97	76										
890-5113-13	BES23-13 1'	99	75										
890-5113-14	BES23-14 1'	89	73										
890-5113-15	BES23-15 1'	97	57 S1-										
890-5113-16	BES23-16 1'	100	72										
890-5113-17	BES23-17 1'	76	73										
890-5113-18	BES23-18 1'	93	69 S1-										
890-5113-19	BES23-19 1'	97	54 S1-										
890-5113-20	BES23-20 1'	132 S1+	101										
890-5113-21	BES23-21 1'	88	111										
890-5113-22	BES23-22 1'	92	109										
890-5113-23	BES23-23 1'	85	109										
890-5113-24	BES23-24 1'	90	111										
LCS 880-61050/1-A	Lab Control Sample	82	110										
LCS 880-61051/1-A	Lab Control Sample	132 S1+	114										
LCS 880-61053/1-A	Lab Control Sample	93	109										
LCSD 880-61050/2-A	Lab Control Sample Dup	77	113										
LCSD 880-61051/2-A	Lab Control Sample Dup	127	107										
LCSD 880-61053/2-A	Lab Control Sample Dup	98	107										
MB 880-61050/5-A	Method Blank	66 S1-	101										
MB 880-61051/5-A	Method Blank	74	90										
MB 880-61053/5-A	Method Blank	73	98										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Surrogate Summary

Client: Vertex Job ID: 890-5113-1
Project/Site: Carleton SWD SDG: 2E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
890-5113-1	BES23-01 3'	142 S1+	113								
890-5113-1 MS	BES23-01 3'	133 S1+	95								
890-5113-1 MSD	BES23-01 3'	136 S1+	97								
890-5113-2	BES23-02 3'	137 S1+	107								
890-5113-3	BES23-03 3'	134 S1+	108								
890-5113-4	BES23-04 1'	114	93								
890-5113-5	BES23-05 1'	136 S1+	114								
890-5113-6	BES23-06 1'	135 S1+	108								
890-5113-7	BES23-07 1'	135 S1+	109								
890-5113-8	BES23-08 1'	146 S1+	116								
890-5113-9	BES23-09 1'	136 S1+	114								
890-5113-10	BES23-10 1'	132 S1+	106								
890-5113-11	BES23-11 1'	134 S1+	110								
890-5113-12	BES23-12 1'	148 S1+	122								
890-5113-13	BES23-13 1'	135 S1+	107								
890-5113-14	BES23-14 1'	132 S1+	106								
890-5113-15	BES23-15 1'	130	99								
890-5113-16	BES23-16 1'	129	99								
890-5113-17	BES23-17 1'	132 S1+	106								
890-5113-18	BES23-18 1'	135 S1+	104								
890-5113-19	BES23-19 1'	132 S1+	107								
890-5113-20	BES23-20 1'	138 S1+	111								
890-5113-21	BES23-21 1'	150 S1+	118								
890-5113-21 MS	BES23-21 1'	138 S1+	97								
890-5113-21 MSD	BES23-21 1'	138 S1+	95								
890-5113-22	BES23-22 1'	158 S1+	118								
890-5113-23	BES23-23 1'	144 S1+	117								
890-5113-24	BES23-24 1'	144 S1+	114								
LCS 880-61029/2-A	Lab Control Sample	148 S1+	124								
LCS 880-61031/2-A	Lab Control Sample	137 S1+	123								
LCSD 880-61029/3-A	Lab Control Sample Dup	147 S1+	123								
LCSD 880-61031/3-A	Lab Control Sample Dup	143 S1+	115								
MB 880-61029/1-A	Method Blank	224 S1+	184 S1+								
MB 880-61031/1-A	Method Blank	254 S1+	200 S1+								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61050/5-A
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61050

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:09	08/25/23 13:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:09	08/25/23 13:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:09	08/25/23 13:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/25/23 08:09	08/25/23 13:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/25/23 08:09	08/25/23 13:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:09	08/25/23 13:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*08/25/23 08:09*	*08/25/23 13:29*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*08/25/23 08:09*	*08/25/23 13:29*	*1*

Lab Sample ID: LCS 880-61050/1-A
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61050

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1064		mg/Kg		106	70 - 130		
Ethylbenzene			0.100	0.07894		mg/Kg		79	70 - 130		
Toluene			0.100	0.09530		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1650		mg/Kg		83	70 - 130		
o-Xylene			0.100	0.08264		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 880-61050/2-A
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61050

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1059		mg/Kg		106	70 - 130	0	35
Ethylbenzene			0.100	0.06827	*-	mg/Kg		68	70 - 130	15	35
Toluene			0.100	0.08983		mg/Kg		90	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.1404		mg/Kg		70	70 - 130	16	35
o-Xylene			0.100	0.06902	*-	mg/Kg		69	70 - 130	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: 880-32509-A-1-D MS
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61050

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.08845		mg/Kg		88	70 - 130		
Ethylbenzene	<0.00200	U *- F1	0.0996	0.06398	F1	mg/Kg		64	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

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

Lab Sample ID: 880-32509-A-1-D MS
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61050

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00200	U	0.0996	0.08509		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.199	0.1357	F1	mg/Kg		68	70 - 130
o-Xylene	<0.00200	U *- F1	0.0996	0.06719	F1	mg/Kg		67	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-32509-A-1-E MSD
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61050

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.101	0.1133		mg/Kg		112	70 - 130	25	35
Ethylbenzene	<0.00200	U *- F1	0.101	0.08033		mg/Kg		80	70 - 130	23	35
Toluene	<0.00200	U	0.101	0.09853		mg/Kg		97	70 - 130	15	35
m-Xylene & p-Xylene	<0.00399	U F1	0.202	0.1674		mg/Kg		83	70 - 130	21	35
o-Xylene	<0.00200	U *- F1	0.101	0.08270		mg/Kg		82	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: MB 880-61051/5-A
Matrix: Solid
Analysis Batch: 61057

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61051

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 12:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 12:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 12:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/25/23 08:20	08/25/23 12:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/25/23 08:20	08/25/23 12:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:20	08/25/23 12:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*08/25/23 08:20*	*08/25/23 12:28*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/25/23 08:20*	*08/25/23 12:28*	*1*

Lab Sample ID: LCS 880-61051/1-A
Matrix: Solid
Analysis Batch: 61057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61051

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1136		mg/Kg		114	70 - 130
Ethylbenzene	0.100	0.1270		mg/Kg		127	70 - 130
Toluene	0.100	0.1259		mg/Kg		126	70 - 130
m-Xylene & p-Xylene	0.200	0.2728	*+	mg/Kg		136	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

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

Lab Sample ID: LCS 880-61051/1-A
Matrix: Solid
Analysis Batch: 61057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61051

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1327	*+	mg/Kg		133	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: LCSD 880-61051/2-A
Matrix: Solid
Analysis Batch: 61057

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61051

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1027		mg/Kg		103	70 - 130	10	35
Ethylbenzene			0.100	0.1269		mg/Kg		127	70 - 130	0	35
Toluene			0.100	0.1212		mg/Kg		121	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2845	*+	mg/Kg		142	70 - 130	4	35
o-Xylene			0.100	0.1389	*+	mg/Kg		139	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-32511-A-1-B MS
Matrix: Solid
Analysis Batch: 61057

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61051

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.101	0.08287		mg/Kg		81	70 - 130		
Ethylbenzene	<0.00198	U	0.101	0.07239		mg/Kg		71	70 - 130		
Toluene	<0.00198	U	0.101	0.07902		mg/Kg		78	70 - 130		
m-Xylene & p-Xylene	<0.00397	U *+	0.202	0.1548		mg/Kg		75	70 - 130		
o-Xylene	<0.00198	U *+	0.101	0.07211		mg/Kg		71	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*

Lab Sample ID: 880-32511-A-1-C MSD
Matrix: Solid
Analysis Batch: 61057

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61051

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.101	0.08126		mg/Kg		79	70 - 130	2	35
Ethylbenzene	<0.00198	U	0.101	0.07582		mg/Kg		74	70 - 130	5	35
Toluene	<0.00198	U	0.101	0.08057		mg/Kg		80	70 - 130	2	35
m-Xylene & p-Xylene	<0.00397	U *+	0.202	0.1627		mg/Kg		79	70 - 130	5	35
o-Xylene	<0.00198	U *+	0.101	0.09468		mg/Kg		93	70 - 130	27	35

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

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

Lab Sample ID: 880-32511-A-1-C MSD
Matrix: Solid
Analysis Batch: 61057

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61051

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	124		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: MB 880-61053/5-A
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:38	08/26/23 00:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:38	08/26/23 00:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:38	08/26/23 00:27	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/25/23 08:38	08/26/23 00:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/25/23 08:38	08/26/23 00:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/25/23 08:38	08/26/23 00:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130	08/25/23 08:38	08/26/23 00:27	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/25/23 08:38	08/26/23 00:27	1

Lab Sample ID: LCS 880-61053/1-A
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1032		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.09020		mg/Kg		90	70 - 130		
Toluene			0.100	0.1034		mg/Kg		103	70 - 130		
m-Xylene & p-Xylene			0.200	0.1938		mg/Kg		97	70 - 130		
o-Xylene			0.100	0.09754		mg/Kg		98	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-61053/2-A
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61053

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09801		mg/Kg		98	70 - 130	5	35
Ethylbenzene			0.100	0.09536		mg/Kg		95	70 - 130	6	35
Toluene			0.100	0.1047		mg/Kg		105	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2085		mg/Kg		104	70 - 130	7	35
o-Xylene			0.100	0.1052		mg/Kg		105	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

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

Lab Sample ID: LCSD 880-61053/2-A
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61053

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 880-32541-A-1-A MS
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61053

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.101	0.08185		mg/Kg		81	70 - 130
Ethylbenzene	<0.00198	U	0.101	0.07343		mg/Kg		73	70 - 130
Toluene	<0.00198	U	0.101	0.08498		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.202	0.1555		mg/Kg		77	70 - 130
o-Xylene	<0.00198	U	0.101	0.07817		mg/Kg		78	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 880-32541-A-1-B MSD
Matrix: Solid
Analysis Batch: 61058

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0998	0.09779		mg/Kg		98	70 - 130	18	35
Ethylbenzene	<0.00198	U	0.0998	0.09019		mg/Kg		90	70 - 130	20	35
Toluene	<0.00198	U	0.0998	0.1035		mg/Kg		104	70 - 130	20	35
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1915		mg/Kg		96	70 - 130	21	35
o-Xylene	<0.00198	U	0.0998	0.09597		mg/Kg		96	70 - 130	20	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-61029/1-A
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/24/23 16:29	08/25/23 09:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/23 16:29	08/25/23 09:23	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/23 16:29	08/25/23 09:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	224	S1+	70 - 130	08/24/23 16:29	08/25/23 09:23	1
o-Terphenyl	184	S1+	70 - 130	08/24/23 16:29	08/25/23 09:23	1

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QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

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

Lab Sample ID: LCS 880-61029/2-A
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61029

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1016		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1070		mg/Kg		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*148*	*S1+*	*70 - 130*
o-Terphenyl	*124*		*70 - 130*

Lab Sample ID: LCSD 880-61029/3-A
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61029

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1085		mg/Kg		109	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	1057		mg/Kg		106	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*147*	*S1+*	*70 - 130*
o-Terphenyl	*123*		*70 - 130*

Lab Sample ID: 890-5113-1 MS
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: BES23-01 3'
Prep Type: Total/NA
Prep Batch: 61029

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	997	947.6		mg/Kg		93	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	997	1120		mg/Kg		112	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*133*	*S1+*	*70 - 130*
o-Terphenyl	*95*		*70 - 130*

Lab Sample ID: 890-5113-1 MSD
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: BES23-01 3'
Prep Type: Total/NA
Prep Batch: 61029

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	997	976.2		mg/Kg		96	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.8	U	997	1155		mg/Kg		116	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*136*	*S1+*	*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

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

Lab Sample ID: 890-5113-1 MSD
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: BES23-01 3'
Prep Type: Total/NA
Prep Batch: 61029

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	97		70 - 130

Lab Sample ID: MB 880-61031/1-A
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61031

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/24/23 16:34	08/25/23 20:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/23 16:34	08/25/23 20:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/23 16:34	08/25/23 20:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	254	S1+	70 - 130	08/24/23 16:34	08/25/23 20:41	1
o-Terphenyl	200	S1+	70 - 130	08/24/23 16:34	08/25/23 20:41	1

Lab Sample ID: LCS 880-61031/2-A
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61031

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1036		mg/Kg		104	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1045		mg/Kg		104	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	137	S1+	70 - 130
o-Terphenyl	123		70 - 130

Lab Sample ID: LCSD 880-61031/3-A
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61031

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1045		mg/Kg		104	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1019		mg/Kg		102	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	143	S1+	70 - 130
o-Terphenyl	115		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

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

Lab Sample ID: 890-5113-21 MS
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: BES23-21 1'
Prep Type: Total/NA
Prep Batch: 61031

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	1010	954.4		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	<50.2	U	1010	1122		mg/Kg		109	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*138*	*S1+*	*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: 890-5113-21 MSD
Matrix: Solid
Analysis Batch: 61042

Client Sample ID: BES23-21 1'
Prep Type: Total/NA
Prep Batch: 61031

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	1010	968.6		mg/Kg		92	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.2	U	1010	1119		mg/Kg		109	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*138*	*S1+*	*70 - 130*
o-Terphenyl	*95*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-60583/1-A
Matrix: Solid
Analysis Batch: 60730

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/21/23 08:42	1

Lab Sample ID: LCS 880-60583/2-A
Matrix: Solid
Analysis Batch: 60730

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	254.3		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-60583/3-A
Matrix: Solid
Analysis Batch: 60730

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	255.8		mg/Kg		102	90 - 110	1	20

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-5113-1 MS
Matrix: Solid
Analysis Batch: 60730

Client Sample ID: BES23-01 3'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	71.8		248	338.4		mg/Kg		108	90 - 110

Lab Sample ID: 890-5113-1 MSD
Matrix: Solid
Analysis Batch: 60730

Client Sample ID: BES23-01 3'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	71.8		248	338.8		mg/Kg		108	90 - 110	0	20

Lab Sample ID: 890-5113-11 MS
Matrix: Solid
Analysis Batch: 60730

Client Sample ID: BES23-11 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	89.4		248	357.5		mg/Kg		108	90 - 110

Lab Sample ID: 890-5113-11 MSD
Matrix: Solid
Analysis Batch: 60730

Client Sample ID: BES23-11 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	89.4		248	313.7		mg/Kg		90	90 - 110	13	20

Lab Sample ID: MB 880-60585/1-A
Matrix: Solid
Analysis Batch: 60731

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/21/23 12:34	1

Lab Sample ID: LCS 880-60585/2-A
Matrix: Solid
Analysis Batch: 60731

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	255.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-60585/3-A
Matrix: Solid
Analysis Batch: 60731

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	256.4		mg/Kg		103	90 - 110	1	20

Lab Sample ID: 880-32242-A-1-B MS
Matrix: Solid
Analysis Batch: 60731

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	88.6		248	322.6		mg/Kg		94	90 - 110

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-32242-A-1-C MSD
Matrix: Solid
Analysis Batch: 60731

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	88.6		248	324.8		mg/Kg		95	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

GC VOA

Prep Batch: 61050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-1	BES23-01 3'	Total/NA	Solid	5035	
890-5113-2	BES23-02 3'	Total/NA	Solid	5035	
890-5113-3	BES23-03 3'	Total/NA	Solid	5035	
890-5113-4	BES23-04 1'	Total/NA	Solid	5035	
890-5113-5	BES23-05 1'	Total/NA	Solid	5035	
890-5113-6	BES23-06 1'	Total/NA	Solid	5035	
890-5113-7	BES23-07 1'	Total/NA	Solid	5035	
890-5113-8	BES23-08 1'	Total/NA	Solid	5035	
890-5113-9	BES23-09 1'	Total/NA	Solid	5035	
890-5113-10	BES23-10 1'	Total/NA	Solid	5035	
MB 880-61050/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61050/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61050/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32509-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-32509-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 61051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-11	BES23-11 1'	Total/NA	Solid	5035	
890-5113-12	BES23-12 1'	Total/NA	Solid	5035	
890-5113-13	BES23-13 1'	Total/NA	Solid	5035	
890-5113-14	BES23-14 1'	Total/NA	Solid	5035	
890-5113-15	BES23-15 1'	Total/NA	Solid	5035	
890-5113-16	BES23-16 1'	Total/NA	Solid	5035	
890-5113-17	BES23-17 1'	Total/NA	Solid	5035	
890-5113-18	BES23-18 1'	Total/NA	Solid	5035	
890-5113-19	BES23-19 1'	Total/NA	Solid	5035	
890-5113-20	BES23-20 1'	Total/NA	Solid	5035	
MB 880-61051/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61051/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61051/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32511-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-32511-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 61053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-21	BES23-21 1'	Total/NA	Solid	5035	
890-5113-22	BES23-22 1'	Total/NA	Solid	5035	
890-5113-23	BES23-23 1'	Total/NA	Solid	5035	
890-5113-24	BES23-24 1'	Total/NA	Solid	5035	
MB 880-61053/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61053/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61053/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32541-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-32541-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 61057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-11	BES23-11 1'	Total/NA	Solid	8021B	61051
890-5113-12	BES23-12 1'	Total/NA	Solid	8021B	61051
890-5113-13	BES23-13 1'	Total/NA	Solid	8021B	61051

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

GC VOA (Continued)

Analysis Batch: 61057 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-14	BES23-14 1'	Total/NA	Solid	8021B	61051
890-5113-15	BES23-15 1'	Total/NA	Solid	8021B	61051
890-5113-16	BES23-16 1'	Total/NA	Solid	8021B	61051
890-5113-17	BES23-17 1'	Total/NA	Solid	8021B	61051
890-5113-18	BES23-18 1'	Total/NA	Solid	8021B	61051
890-5113-19	BES23-19 1'	Total/NA	Solid	8021B	61051
890-5113-20	BES23-20 1'	Total/NA	Solid	8021B	61051
MB 880-61051/5-A	Method Blank	Total/NA	Solid	8021B	61051
LCS 880-61051/1-A	Lab Control Sample	Total/NA	Solid	8021B	61051
LCSD 880-61051/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61051
880-32511-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	61051
880-32511-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61051

Analysis Batch: 61058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-1	BES23-01 3'	Total/NA	Solid	8021B	61050
890-5113-2	BES23-02 3'	Total/NA	Solid	8021B	61050
890-5113-3	BES23-03 3'	Total/NA	Solid	8021B	61050
890-5113-4	BES23-04 1'	Total/NA	Solid	8021B	61050
890-5113-5	BES23-05 1'	Total/NA	Solid	8021B	61050
890-5113-6	BES23-06 1'	Total/NA	Solid	8021B	61050
890-5113-7	BES23-07 1'	Total/NA	Solid	8021B	61050
890-5113-8	BES23-08 1'	Total/NA	Solid	8021B	61050
890-5113-9	BES23-09 1'	Total/NA	Solid	8021B	61050
890-5113-10	BES23-10 1'	Total/NA	Solid	8021B	61050
890-5113-21	BES23-21 1'	Total/NA	Solid	8021B	61053
890-5113-22	BES23-22 1'	Total/NA	Solid	8021B	61053
890-5113-23	BES23-23 1'	Total/NA	Solid	8021B	61053
890-5113-24	BES23-24 1'	Total/NA	Solid	8021B	61053
MB 880-61050/5-A	Method Blank	Total/NA	Solid	8021B	61050
MB 880-61053/5-A	Method Blank	Total/NA	Solid	8021B	61053
LCS 880-61050/1-A	Lab Control Sample	Total/NA	Solid	8021B	61050
LCS 880-61053/1-A	Lab Control Sample	Total/NA	Solid	8021B	61053
LCSD 880-61050/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61050
LCSD 880-61053/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61053
880-32509-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	61050
880-32509-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61050
880-32541-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	61053
880-32541-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61053

Analysis Batch: 61274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-1	BES23-01 3'	Total/NA	Solid	Total BTEX	
890-5113-2	BES23-02 3'	Total/NA	Solid	Total BTEX	
890-5113-3	BES23-03 3'	Total/NA	Solid	Total BTEX	
890-5113-4	BES23-04 1'	Total/NA	Solid	Total BTEX	
890-5113-5	BES23-05 1'	Total/NA	Solid	Total BTEX	
890-5113-6	BES23-06 1'	Total/NA	Solid	Total BTEX	
890-5113-7	BES23-07 1'	Total/NA	Solid	Total BTEX	
890-5113-8	BES23-08 1'	Total/NA	Solid	Total BTEX	
890-5113-9	BES23-09 1'	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

GC VOA (Continued)

Analysis Batch: 61274 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-10	BES23-10 1'	Total/NA	Solid	Total BTEX	
890-5113-11	BES23-11 1'	Total/NA	Solid	Total BTEX	
890-5113-12	BES23-12 1'	Total/NA	Solid	Total BTEX	
890-5113-13	BES23-13 1'	Total/NA	Solid	Total BTEX	
890-5113-14	BES23-14 1'	Total/NA	Solid	Total BTEX	
890-5113-15	BES23-15 1'	Total/NA	Solid	Total BTEX	
890-5113-16	BES23-16 1'	Total/NA	Solid	Total BTEX	
890-5113-17	BES23-17 1'	Total/NA	Solid	Total BTEX	
890-5113-18	BES23-18 1'	Total/NA	Solid	Total BTEX	
890-5113-19	BES23-19 1'	Total/NA	Solid	Total BTEX	
890-5113-20	BES23-20 1'	Total/NA	Solid	Total BTEX	
890-5113-21	BES23-21 1'	Total/NA	Solid	Total BTEX	
890-5113-22	BES23-22 1'	Total/NA	Solid	Total BTEX	
890-5113-23	BES23-23 1'	Total/NA	Solid	Total BTEX	
890-5113-24	BES23-24 1'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 61029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-1	BES23-01 3'	Total/NA	Solid	8015NM Prep	
890-5113-2	BES23-02 3'	Total/NA	Solid	8015NM Prep	
890-5113-3	BES23-03 3'	Total/NA	Solid	8015NM Prep	
890-5113-4	BES23-04 1'	Total/NA	Solid	8015NM Prep	
890-5113-5	BES23-05 1'	Total/NA	Solid	8015NM Prep	
890-5113-6	BES23-06 1'	Total/NA	Solid	8015NM Prep	
890-5113-7	BES23-07 1'	Total/NA	Solid	8015NM Prep	
890-5113-8	BES23-08 1'	Total/NA	Solid	8015NM Prep	
890-5113-9	BES23-09 1'	Total/NA	Solid	8015NM Prep	
890-5113-10	BES23-10 1'	Total/NA	Solid	8015NM Prep	
890-5113-11	BES23-11 1'	Total/NA	Solid	8015NM Prep	
890-5113-12	BES23-12 1'	Total/NA	Solid	8015NM Prep	
890-5113-13	BES23-13 1'	Total/NA	Solid	8015NM Prep	
890-5113-14	BES23-14 1'	Total/NA	Solid	8015NM Prep	
890-5113-15	BES23-15 1'	Total/NA	Solid	8015NM Prep	
890-5113-16	BES23-16 1'	Total/NA	Solid	8015NM Prep	
890-5113-17	BES23-17 1'	Total/NA	Solid	8015NM Prep	
890-5113-18	BES23-18 1'	Total/NA	Solid	8015NM Prep	
890-5113-19	BES23-19 1'	Total/NA	Solid	8015NM Prep	
890-5113-20	BES23-20 1'	Total/NA	Solid	8015NM Prep	
MB 880-61029/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61029/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61029/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5113-1 MS	BES23-01 3'	Total/NA	Solid	8015NM Prep	
890-5113-1 MSD	BES23-01 3'	Total/NA	Solid	8015NM Prep	

Prep Batch: 61031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-21	BES23-21 1'	Total/NA	Solid	8015NM Prep	
890-5113-22	BES23-22 1'	Total/NA	Solid	8015NM Prep	
890-5113-23	BES23-23 1'	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

GC Semi VOA (Continued)

Prep Batch: 61031 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-24	BES23-24 1'	Total/NA	Solid	8015NM Prep	
MB 880-61031/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61031/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61031/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5113-21 MS	BES23-21 1'	Total/NA	Solid	8015NM Prep	
890-5113-21 MSD	BES23-21 1'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-1	BES23-01 3'	Total/NA	Solid	8015B NM	61029
890-5113-2	BES23-02 3'	Total/NA	Solid	8015B NM	61029
890-5113-3	BES23-03 3'	Total/NA	Solid	8015B NM	61029
890-5113-4	BES23-04 1'	Total/NA	Solid	8015B NM	61029
890-5113-5	BES23-05 1'	Total/NA	Solid	8015B NM	61029
890-5113-6	BES23-06 1'	Total/NA	Solid	8015B NM	61029
890-5113-7	BES23-07 1'	Total/NA	Solid	8015B NM	61029
890-5113-8	BES23-08 1'	Total/NA	Solid	8015B NM	61029
890-5113-9	BES23-09 1'	Total/NA	Solid	8015B NM	61029
890-5113-10	BES23-10 1'	Total/NA	Solid	8015B NM	61029
890-5113-11	BES23-11 1'	Total/NA	Solid	8015B NM	61029
890-5113-12	BES23-12 1'	Total/NA	Solid	8015B NM	61029
890-5113-13	BES23-13 1'	Total/NA	Solid	8015B NM	61029
890-5113-14	BES23-14 1'	Total/NA	Solid	8015B NM	61029
890-5113-15	BES23-15 1'	Total/NA	Solid	8015B NM	61029
890-5113-16	BES23-16 1'	Total/NA	Solid	8015B NM	61029
890-5113-17	BES23-17 1'	Total/NA	Solid	8015B NM	61029
890-5113-18	BES23-18 1'	Total/NA	Solid	8015B NM	61029
890-5113-19	BES23-19 1'	Total/NA	Solid	8015B NM	61029
890-5113-20	BES23-20 1'	Total/NA	Solid	8015B NM	61029
890-5113-21	BES23-21 1'	Total/NA	Solid	8015B NM	61031
890-5113-22	BES23-22 1'	Total/NA	Solid	8015B NM	61031
890-5113-23	BES23-23 1'	Total/NA	Solid	8015B NM	61031
890-5113-24	BES23-24 1'	Total/NA	Solid	8015B NM	61031
MB 880-61029/1-A	Method Blank	Total/NA	Solid	8015B NM	61029
MB 880-61031/1-A	Method Blank	Total/NA	Solid	8015B NM	61031
LCS 880-61029/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61029
LCS 880-61031/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61031
LCSD 880-61029/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61029
LCSD 880-61031/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61031
890-5113-1 MS	BES23-01 3'	Total/NA	Solid	8015B NM	61029
890-5113-1 MSD	BES23-01 3'	Total/NA	Solid	8015B NM	61029
890-5113-21 MS	BES23-21 1'	Total/NA	Solid	8015B NM	61031
890-5113-21 MSD	BES23-21 1'	Total/NA	Solid	8015B NM	61031

Analysis Batch: 61401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-1	BES23-01 3'	Total/NA	Solid	8015 NM	
890-5113-2	BES23-02 3'	Total/NA	Solid	8015 NM	
890-5113-3	BES23-03 3'	Total/NA	Solid	8015 NM	
890-5113-4	BES23-04 1'	Total/NA	Solid	8015 NM	
890-5113-5	BES23-05 1'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

GC Semi VOA (Continued)

Analysis Batch: 61401 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-6	BES23-06 1'	Total/NA	Solid	8015 NM	
890-5113-7	BES23-07 1'	Total/NA	Solid	8015 NM	
890-5113-8	BES23-08 1'	Total/NA	Solid	8015 NM	
890-5113-9	BES23-09 1'	Total/NA	Solid	8015 NM	
890-5113-10	BES23-10 1'	Total/NA	Solid	8015 NM	
890-5113-11	BES23-11 1'	Total/NA	Solid	8015 NM	
890-5113-12	BES23-12 1'	Total/NA	Solid	8015 NM	
890-5113-13	BES23-13 1'	Total/NA	Solid	8015 NM	
890-5113-14	BES23-14 1'	Total/NA	Solid	8015 NM	
890-5113-15	BES23-15 1'	Total/NA	Solid	8015 NM	
890-5113-16	BES23-16 1'	Total/NA	Solid	8015 NM	
890-5113-17	BES23-17 1'	Total/NA	Solid	8015 NM	
890-5113-18	BES23-18 1'	Total/NA	Solid	8015 NM	
890-5113-19	BES23-19 1'	Total/NA	Solid	8015 NM	
890-5113-20	BES23-20 1'	Total/NA	Solid	8015 NM	
890-5113-21	BES23-21 1'	Total/NA	Solid	8015 NM	
890-5113-22	BES23-22 1'	Total/NA	Solid	8015 NM	
890-5113-23	BES23-23 1'	Total/NA	Solid	8015 NM	
890-5113-24	BES23-24 1'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 60583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-1	BES23-01 3'	Soluble	Solid	DI Leach	
890-5113-2	BES23-02 3'	Soluble	Solid	DI Leach	
890-5113-3	BES23-03 3'	Soluble	Solid	DI Leach	
890-5113-4	BES23-04 1'	Soluble	Solid	DI Leach	
890-5113-5	BES23-05 1'	Soluble	Solid	DI Leach	
890-5113-6	BES23-06 1'	Soluble	Solid	DI Leach	
890-5113-7	BES23-07 1'	Soluble	Solid	DI Leach	
890-5113-8	BES23-08 1'	Soluble	Solid	DI Leach	
890-5113-9	BES23-09 1'	Soluble	Solid	DI Leach	
890-5113-10	BES23-10 1'	Soluble	Solid	DI Leach	
890-5113-11	BES23-11 1'	Soluble	Solid	DI Leach	
890-5113-12	BES23-12 1'	Soluble	Solid	DI Leach	
890-5113-13	BES23-13 1'	Soluble	Solid	DI Leach	
890-5113-14	BES23-14 1'	Soluble	Solid	DI Leach	
890-5113-15	BES23-15 1'	Soluble	Solid	DI Leach	
890-5113-16	BES23-16 1'	Soluble	Solid	DI Leach	
890-5113-17	BES23-17 1'	Soluble	Solid	DI Leach	
890-5113-18	BES23-18 1'	Soluble	Solid	DI Leach	
890-5113-19	BES23-19 1'	Soluble	Solid	DI Leach	
890-5113-20	BES23-20 1'	Soluble	Solid	DI Leach	
MB 880-60583/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-60583/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-60583/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5113-1 MS	BES23-01 3'	Soluble	Solid	DI Leach	
890-5113-1 MSD	BES23-01 3'	Soluble	Solid	DI Leach	
890-5113-11 MS	BES23-11 1'	Soluble	Solid	DI Leach	
890-5113-11 MSD	BES23-11 1'	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

HPLC/IC

Leach Batch: 60585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-21	BES23-21 1'	Soluble	Solid	DI Leach	
890-5113-22	BES23-22 1'	Soluble	Solid	DI Leach	
890-5113-23	BES23-23 1'	Soluble	Solid	DI Leach	
890-5113-24	BES23-24 1'	Soluble	Solid	DI Leach	
MB 880-60585/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-60585/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-60585/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-32242-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-32242-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 60730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-1	BES23-01 3'	Soluble	Solid	300.0	60583
890-5113-2	BES23-02 3'	Soluble	Solid	300.0	60583
890-5113-3	BES23-03 3'	Soluble	Solid	300.0	60583
890-5113-4	BES23-04 1'	Soluble	Solid	300.0	60583
890-5113-5	BES23-05 1'	Soluble	Solid	300.0	60583
890-5113-6	BES23-06 1'	Soluble	Solid	300.0	60583
890-5113-7	BES23-07 1'	Soluble	Solid	300.0	60583
890-5113-8	BES23-08 1'	Soluble	Solid	300.0	60583
890-5113-9	BES23-09 1'	Soluble	Solid	300.0	60583
890-5113-10	BES23-10 1'	Soluble	Solid	300.0	60583
890-5113-11	BES23-11 1'	Soluble	Solid	300.0	60583
890-5113-12	BES23-12 1'	Soluble	Solid	300.0	60583
890-5113-13	BES23-13 1'	Soluble	Solid	300.0	60583
890-5113-14	BES23-14 1'	Soluble	Solid	300.0	60583
890-5113-15	BES23-15 1'	Soluble	Solid	300.0	60583
890-5113-16	BES23-16 1'	Soluble	Solid	300.0	60583
890-5113-17	BES23-17 1'	Soluble	Solid	300.0	60583
890-5113-18	BES23-18 1'	Soluble	Solid	300.0	60583
890-5113-19	BES23-19 1'	Soluble	Solid	300.0	60583
890-5113-20	BES23-20 1'	Soluble	Solid	300.0	60583
MB 880-60583/1-A	Method Blank	Soluble	Solid	300.0	60583
LCS 880-60583/2-A	Lab Control Sample	Soluble	Solid	300.0	60583
LCSD 880-60583/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	60583
890-5113-1 MS	BES23-01 3'	Soluble	Solid	300.0	60583
890-5113-1 MSD	BES23-01 3'	Soluble	Solid	300.0	60583
890-5113-11 MS	BES23-11 1'	Soluble	Solid	300.0	60583
890-5113-11 MSD	BES23-11 1'	Soluble	Solid	300.0	60583

Analysis Batch: 60731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5113-21	BES23-21 1'	Soluble	Solid	300.0	60585
890-5113-22	BES23-22 1'	Soluble	Solid	300.0	60585
890-5113-23	BES23-23 1'	Soluble	Solid	300.0	60585
890-5113-24	BES23-24 1'	Soluble	Solid	300.0	60585
MB 880-60585/1-A	Method Blank	Soluble	Solid	300.0	60585
LCS 880-60585/2-A	Lab Control Sample	Soluble	Solid	300.0	60585
LCSD 880-60585/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	60585
880-32242-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	60585
880-32242-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	60585

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-01 3'
Date Collected: 08/16/23 08:00
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 18:38	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 11:54	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 09:02	CH	EET MID

Client Sample ID: BES23-02 3'
Date Collected: 08/16/23 08:05
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 18:59	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 12:59	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 09:22	CH	EET MID

Client Sample ID: BES23-03 3'
Date Collected: 08/16/23 08:10
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 19:20	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 13:21	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 09:29	CH	EET MID

Client Sample ID: BES23-04 1'
Date Collected: 08/16/23 08:15
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 19:40	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-04 1'
Date Collected: 08/16/23 08:15
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 13:42	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 09:35	CH	EET MID

Client Sample ID: BES23-05 1'
Date Collected: 08/16/23 08:20
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 20:01	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 14:04	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 09:42	CH	EET MID

Client Sample ID: BES23-06 1'
Date Collected: 08/16/23 08:25
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 20:22	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 14:26	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 10:02	CH	EET MID

Client Sample ID: BES23-07 1'
Date Collected: 08/16/23 08:30
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 20:43	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 14:47	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-07 1'
Date Collected: 08/16/23 08:30
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 10:08	CH	EET MID

Client Sample ID: BES23-08 1'
Date Collected: 08/16/23 08:35
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 21:03	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 15:09	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 10:15	CH	EET MID

Client Sample ID: BES23-09 1'
Date Collected: 08/16/23 08:40
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 21:24	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 15:31	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 10:22	CH	EET MID

Client Sample ID: BES23-10 1'
Date Collected: 08/16/23 08:45
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61050	08/25/23 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/25/23 21:45	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 15:53	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 10:28	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-11 1'
Date Collected: 08/16/23 08:50
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 17:40	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 16:42	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 10:35	CH	EET MID

Client Sample ID: BES23-12 1'
Date Collected: 08/16/23 08:55
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 18:00	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 17:03	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 10:55	CH	EET MID

Client Sample ID: BES23-13 1'
Date Collected: 08/16/23 09:00
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 18:21	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 17:25	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 11:01	CH	EET MID

Client Sample ID: BES23-14 1'
Date Collected: 08/16/23 09:05
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 18:41	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-14 1'
Date Collected: 08/16/23 09:05
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 17:47	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 11:21	CH	EET MID

Client Sample ID: BES23-15 1'
Date Collected: 08/16/23 09:10
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 19:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 18:09	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 11:28	CH	EET MID

Client Sample ID: BES23-16 1'
Date Collected: 08/16/23 09:15
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 19:22	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 18:31	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 11:35	CH	EET MID

Client Sample ID: BES23-17 1'
Date Collected: 08/16/23 09:20
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 19:42	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 18:52	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-17 1'
Date Collected: 08/16/23 09:20
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 11:41	CH	EET MID

Client Sample ID: BES23-18 1'
Date Collected: 08/16/23 09:25
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 20:03	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 19:14	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 11:48	CH	EET MID

Client Sample ID: BES23-19 1'
Date Collected: 08/16/23 09:30
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 20:23	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 19:36	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 11:54	CH	EET MID

Client Sample ID: BES23-20 1'
Date Collected: 08/16/23 09:35
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61051	08/25/23 08:20	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61057	08/25/23 20:44	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	61029	08/24/23 16:30	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 19:57	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	60583	08/18/23 15:22	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60730	08/21/23 12:01	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-21 1'
Date Collected: 08/16/23 09:40
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61053	08/25/23 08:38	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/26/23 05:58	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	61031	08/24/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 21:45	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	60585	08/18/23 15:24	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60731	08/21/23 14:01	CH	EET MID

Client Sample ID: BES23-22 1'
Date Collected: 08/16/23 09:45
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61053	08/25/23 08:38	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/26/23 06:18	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	61031	08/24/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 22:49	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60585	08/18/23 15:24	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60731	08/21/23 14:07	CH	EET MID

Client Sample ID: BES23-23 1'
Date Collected: 08/16/23 09:50
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61053	08/25/23 08:38	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/26/23 06:39	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	61031	08/24/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 23:10	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	60585	08/18/23 15:24	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60731	08/21/23 14:14	CH	EET MID

Client Sample ID: BES23-24 1'
Date Collected: 08/16/23 09:55
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61053	08/25/23 08:38	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61058	08/26/23 07:00	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61274	08/28/23 10:57	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Client Sample ID: BES23-24 1'

Date Collected: 08/16/23 09:55
Date Received: 08/16/23 16:15

Lab Sample ID: 890-5113-24

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61401	08/28/23 22:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	61031	08/24/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61042	08/25/23 23:31	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	60585	08/18/23 15:24	CH	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	60731	08/21/23 14:21	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5113-1
SDG: 2E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5113-1	BES23-01 3'	Solid	08/16/23 08:00	08/16/23 16:15	3
890-5113-2	BES23-02 3'	Solid	08/16/23 08:05	08/16/23 16:15	3
890-5113-3	BES23-03 3'	Solid	08/16/23 08:10	08/16/23 16:15	3
890-5113-4	BES23-04 1'	Solid	08/16/23 08:15	08/16/23 16:15	1
890-5113-5	BES23-05 1'	Solid	08/16/23 08:20	08/16/23 16:15	1
890-5113-6	BES23-06 1'	Solid	08/16/23 08:25	08/16/23 16:15	1
890-5113-7	BES23-07 1'	Solid	08/16/23 08:30	08/16/23 16:15	1
890-5113-8	BES23-08 1'	Solid	08/16/23 08:35	08/16/23 16:15	1
890-5113-9	BES23-09 1'	Solid	08/16/23 08:40	08/16/23 16:15	1
890-5113-10	BES23-10 1'	Solid	08/16/23 08:45	08/16/23 16:15	1
890-5113-11	BES23-11 1'	Solid	08/16/23 08:50	08/16/23 16:15	1
890-5113-12	BES23-12 1'	Solid	08/16/23 08:55	08/16/23 16:15	1
890-5113-13	BES23-13 1'	Solid	08/16/23 09:00	08/16/23 16:15	1
890-5113-14	BES23-14 1'	Solid	08/16/23 09:05	08/16/23 16:15	1
890-5113-15	BES23-15 1'	Solid	08/16/23 09:10	08/16/23 16:15	1
890-5113-16	BES23-16 1'	Solid	08/16/23 09:15	08/16/23 16:15	1
890-5113-17	BES23-17 1'	Solid	08/16/23 09:20	08/16/23 16:15	1
890-5113-18	BES23-18 1'	Solid	08/16/23 09:25	08/16/23 16:15	1
890-5113-19	BES23-19 1'	Solid	08/16/23 09:30	08/16/23 16:15	1
890-5113-20	BES23-20 1'	Solid	08/16/23 09:35	08/16/23 16:15	1
890-5113-21	BES23-21 1'	Solid	08/16/23 09:40	08/16/23 16:15	1
890-5113-22	BES23-22 1'	Solid	08/16/23 09:45	08/16/23 16:15	1
890-5113-23	BES23-23 1'	Solid	08/16/23 09:50	08/16/23 16:15	1
890-5113-24	BES23-24 1'	Solid	08/16/23 09:55	08/16/23 16:15	1

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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

Work Order No: _____

www.xenco.com Page 1 of 3

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)	
Samples Received Intact:	(Yes) No	Thermometer ID:	T_NM-00	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	11.6	
Total Containers:		Corrected Temperature:	11.4	

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

ANALYSIS REQUEST

890-5113 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	Cl	Sample Comments
BES23-01 3'	Soil	8/16/23	8:00					X	X	X	
BES23-02 3'			8:05								
BES23-03 3'			8:10								
BES23-04 1'			8:15								
BES23-05 1'			8:20								
BES23-06 1'			8:25								
BES23-07 1'			8:30								
BES23-08 1'			8:35								
BES23-09 1'			8:40								
BES23-10 1'			8:45					X	X	X	

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 Hunter Klein		8-16-23 1685	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

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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

Work Order No: _____

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Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	PG1	
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_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	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH	Cl	Sample Comments
BES23-11 1'	Soil	8/16/23	8:50					X	X	X	
BES23-12 1'			8:55					↑	↑	↑	
BES23-13 1'			9:00								
BES23-14 1'			9:05								
BES23-15 1'			9:10								
BES23-16 1'			9:15								
BES23-17 1'			9:20								
BES23-18 1'			9:25								
BES23-19 1'			9:30								
BES23-20 1'	↓	↓	9:35					X	X	X	

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Hunter Klein		8-16-23 1614	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM
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8/28/2023
Released to Imaging: 3/19/2024 9:29:09 AM

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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

Work Order No: _____

www.xenco.com Page 3 of 3

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Vertex
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		cdixon@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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:	PG1	
Sample Custody Seals:	Yes No N/A	Temperature Reading:		
Total Containers:		Corrected Temperature:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	BTEX	TPH	Cl
BES23-21 1'	Soil	8/16/23	9:40				X	X	X
BES23-22 1'	↓	↓	9:45				X	X	X
BES23-23 1'			9:50				X	X	X
BES23-24 1'			9:55				X	X	X

ANALYSIS REQUEST

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

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	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Hunter Klein		8-16-23 16:26			
3				4		
5				6		

Revised Date 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

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8/28/2023

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Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1440.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 3
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-5113-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 8/22/2023			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Carleton SWD	Project #: 89000162			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
BES23-01 3' (890-5113-1)	8/16/23	08:00 Mountain		Solid			X	X	X	X	X	1	
BES23-02 3' (890-5113-2)	8/16/23	08:05 Mountain		Solid			X	X	X	X	X	1	
BES23-03 3' (890-5113-3)	8/16/23	08:10 Mountain		Solid			X	X	X	X	X	1	
BES23-04 1' (890-5113-4)	8/16/23	08:15 Mountain		Solid			X	X	X	X	X	1	
BES23-05 1' (890-5113-5)	8/16/23	08:20 Mountain		Solid			X	X	X	X	X	1	
BES23-06 1' (890-5113-6)	8/16/23	08:25 Mountain		Solid			X	X	X	X	X	1	
BES23-07 1' (890-5113-7)	8/16/23	08:30 Mountain		Solid			X	X	X	X	X	1	
BES23-08 1' (890-5113-8)	8/16/23	08:35 Mountain		Solid			X	X	X	X	X	1	
BES23-09 1' (890-5113-9)	8/16/23	08:40 Mountain		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Cloe			Kramer	8/10/23 1053	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.9/1.6

Ver: 06/08/2021

Received by OCD: 10/13/2023 12:00:18 AM
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Released to Imaging: 3/19/2024 9:29:09 AM

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1440.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 2 of 3
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-5113-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 8/22/2023			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Carleton SWD	Project #: 89000162			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
BES23-10 1' (890-5113-10)	8/16/23	08:45 Mountain		Solid			X	X	X	X	X	1	
BES23-11 1' (890-5113-11)	8/16/23	08:50 Mountain		Solid			X	X	X	X	X	1	
BES23-12 1' (890-5113-12)	8/16/23	08:55 Mountain		Solid			X	X	X	X	X	1	
BES23-13 1' (890-5113-13)	8/16/23	09:00 Mountain		Solid			X	X	X	X	X	1	
BES23-14 1' (890-5113-14)	8/16/23	09:05 Mountain		Solid			X	X	X	X	X	1	
BES23-15 1' (890-5113-15)	8/16/23	09:10 Mountain		Solid			X	X	X	X	X	1	
BES23-16 1' (890-5113-16)	8/16/23	09:15 Mountain		Solid			X	X	X	X	X	1	
BES23-17 1' (890-5113-17)	8/16/23	09:20 Mountain		Solid			X	X	X	X	X	1	
BES23-18 1' (890-5113-18)	8/16/23	09:25 Mountain		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

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Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1440.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 3 of 3
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-5113-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 8/22/2023			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Carleton SWD	Project #: 89000162			
Site:	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
BES23-19 1' (890-5113-19)	8/16/23	09:30 Mountain		Solid			X	X	X	X	X	1	
BES23-20 1' (890-5113-20)	8/16/23	09:35 Mountain		Solid			X	X	X	X	X	1	
BES23-21 1' (890-5113-21)	8/16/23	09:40 Mountain		Solid			X	X	X	X	X	1	
BES23-22 1' (890-5113-22)	8/16/23	09:45 Mountain		Solid			X	X	X	X	X	1	
BES23-23 1' (890-5113-23)	8/16/23	09:50 Mountain		Solid			X	X	X	X	X	1	
BES23-24 1' (890-5113-24)	8/16/23	09:55 Mountain		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Received by OCD: 10/13/2023 12:00:18 AM
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8/28/2023
Released to Imaging: 3/19/2024 9:29:09 AM

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5113-1
SDG Number: 2E-03626

Login Number: 5113
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5113-1
SDG Number: 2E-03626

Login Number: 5113
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 08/18/23 11:00 AM

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.	True	
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	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/25/2023 11:50:11 AM

JOB DESCRIPTION

CARLETON SWD
SDG NUMBER 23E-036256

JOB NUMBER

890-5133-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

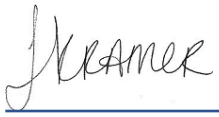
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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8/25/2023 11:50:11 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: CARLETON SWD

Laboratory Job ID: 890-5133-1
SDG: 23E-036256

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Definitions/Glossary

Client: Vertex Job ID: 890-5133-1
Project/Site: CARLETON SWD SDG: 23E-036256

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

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/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Job ID: 890-5133-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5133-1

Receipt
The samples were received on 8/18/2023 4:27 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 18.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BES23-25 1' (890-5133-1), BES23-26 1' (890-5133-2), BES23-27 1' (890-5133-3), BES23-28 1 (890-5133-4), BES23-29 1' (890-5133-5), BES23-30 1' (890-5133-6), BES23-31 1' (890-5133-7), BES23-32 1' (890-5133-8), BES23-33 1' (890-5133-9), BES23-34 1' (890-5133-10), BES23-35 1' (890-5133-11), BES23-36 1' (890-5133-12), BES23-37 1' (890-5133-13), BES23-38 1' (890-5133-14), BES23-39 1' (890-5133-15), BES23-40 1' (890-5133-16), BES23-41 1' (890-5133-17), BES23-42 1' (890-5133-18), BES23-43 1' (890-5133-19), BES23-44 1' (890-5133-20), BES23-45 1' (890-5133-21), BES23-46 1' (890-5133-22), BES23-47 1' (890-5133-23) and BES23-48 1' (890-5133-24).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCS 880-60819/1-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BES23-46 1' (890-5133-22), BES23-47 1' (890-5133-23) and BES23-48 1' (890-5133-24). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The method blank for preparation batch 880-60581 and analytical batch 880-60780 contained Benzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-60819 and analytical batch 880-60780 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-60870 recovered above the upper control limit for Benzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: (CCV 880-60870/2), (CCV 880-60870/20) and (CCV 880-60870/33).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-60845 and analytical batch 880-60858 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BES23-28 1 (890-5133-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-60858/20), (CCV 880-60858/31), (CCV 880-60858/5) and (LCSD 880-60845/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-60930 and analytical batch 880-60956 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-60956/20), (CCV 880-60956/31) and (CCV 880-60956/5). Evidence of matrix interferences is not obvious.

Case Narrative

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Job ID: 890-5133-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-25 1'

Date Collected: 08/18/23 09:00
Date Received: 08/18/23 16:27
Sample Depth: 1

Lab Sample ID: 890-5133-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 12:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 12:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 12:08	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/23/23 08:56	08/23/23 12:08	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/23/23 08:56	08/23/23 12:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 12:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*08/23/23 08:56*	*08/23/23 12:08*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*08/23/23 08:56*	*08/23/23 12:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 10:20	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 10:20	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 10:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*08/22/23 17:33*	*08/23/23 10:20*	*1*
o-Terphenyl	*119*		*70 - 130*	*08/22/23 17:33*	*08/23/23 10:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**131**		4.97		mg/Kg			08/22/23 13:33	1

Client Sample ID: BES23-26 1'

Date Collected: 08/18/23 09:05
Date Received: 08/18/23 16:27
Sample Depth: 1

Lab Sample ID: 890-5133-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 12:29	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 12:29	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 12:29	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/23/23 08:56	08/23/23 12:29	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/23/23 08:56	08/23/23 12:29	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 12:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/23/23 08:56*	*08/23/23 12:29*	*1*

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-26 1'

Date Collected: 08/18/23 09:05
Date Received: 08/18/23 16:27
Sample Depth: 1

Lab Sample ID: 890-5133-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*08/23/23 08:56*	*08/23/23 12:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/22/23 17:33	08/23/23 11:26	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/22/23 17:33	08/23/23 11:26	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/22/23 17:33	08/23/23 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*08/22/23 17:33*	*08/23/23 11:26*	*1*
o-Terphenyl	*115*		*70 - 130*	*08/22/23 17:33*	*08/23/23 11:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		5.02		mg/Kg			08/22/23 13:53	1

Client Sample ID: BES23-27 1'

Date Collected: 08/18/23 09:10
Date Received: 08/18/23 16:27
Sample Depth: 1

Lab Sample ID: 890-5133-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/23/23 08:56	08/23/23 12:50	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/23/23 08:56	08/23/23 12:50	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/23/23 08:56	08/23/23 12:50	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/23/23 08:56	08/23/23 12:50	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/23/23 08:56	08/23/23 12:50	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/23/23 08:56	08/23/23 12:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/23/23 08:56*	*08/23/23 12:50*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*08/23/23 08:56*	*08/23/23 12:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/24/23 11:38	1

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-27 1'

Lab Sample ID: 890-5133-3
Matrix: Solid
Date Collected: 08/18/23 09:10
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 11:48	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 11:48	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 11:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*08/22/23 17:33*	*08/23/23 11:48*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/22/23 17:33*	*08/23/23 11:48*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**502**		5.04		mg/Kg			08/22/23 13:59	1

Client Sample ID: BES23-28 1

Lab Sample ID: 890-5133-4
Matrix: Solid
Date Collected: 08/18/23 09:15
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 13:10	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 13:10	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 13:10	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/23/23 08:56	08/23/23 13:10	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/23/23 08:56	08/23/23 13:10	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/23/23 08:56*	*08/23/23 13:10*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*08/23/23 08:56*	*08/23/23 13:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 12:10	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 12:10	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*08/22/23 17:33*	*08/23/23 12:10*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*08/22/23 17:33*	*08/23/23 12:10*	*1*

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-28 1

Lab Sample ID: 890-5133-4
Matrix: Solid
Date Collected: 08/18/23 09:15
Date Received: 08/18/23 16:27
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**594**		5.04		mg/Kg			08/22/23 14:06	1

Client Sample ID: BES23-29 1'

Lab Sample ID: 890-5133-5
Matrix: Solid
Date Collected: 08/18/23 09:20
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 13:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 13:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 13:31	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/23/23 08:56	08/23/23 13:31	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/23/23 08:56	08/23/23 13:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/23/23 08:56*	*08/23/23 13:31*	*1*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*	*08/23/23 08:56*	*08/23/23 13:31*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**58.5**		50.5		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 12:32	1
Diesel Range Organics (Over C10-C28)	**58.5**		50.5		mg/Kg		08/22/23 17:33	08/23/23 12:32	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*08/22/23 17:33*	*08/23/23 12:32*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/22/23 17:33*	*08/23/23 12:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**495**		4.99		mg/Kg			08/22/23 14:13	1

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-30 1'

Lab Sample ID: 890-5133-6
Matrix: Solid
Date Collected: 08/18/23 09:25
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 13:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 13:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 13:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/23/23 08:56	08/23/23 13:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/23/23 08:56	08/23/23 13:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 13:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*08/23/23 08:56*	*08/23/23 13:52*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*08/23/23 08:56*	*08/23/23 13:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/22/23 17:33	08/23/23 12:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/22/23 17:33	08/23/23 12:54	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/22/23 17:33	08/23/23 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*08/22/23 17:33*	*08/23/23 12:54*	*1*
o-Terphenyl	*122*		*70 - 130*	*08/22/23 17:33*	*08/23/23 12:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**566**		4.97		mg/Kg			08/22/23 14:33	1

Client Sample ID: BES23-31 1'

Lab Sample ID: 890-5133-7
Matrix: Solid
Date Collected: 08/18/23 09:30
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 14:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 14:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 14:13	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/23/23 08:56	08/23/23 14:13	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/23/23 08:56	08/23/23 14:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*08/23/23 08:56*	*08/23/23 14:13*	*1*

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Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-31 1'

Lab Sample ID: 890-5133-7
Matrix: Solid
Date Collected: 08/18/23 09:30
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*08/23/23 08:56*	*08/23/23 14:13*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/22/23 17:33	08/23/23 13:16	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/22/23 17:33	08/23/23 13:16	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/22/23 17:33	08/23/23 13:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*08/22/23 17:33*	*08/23/23 13:16*	*1*
o-Terphenyl	*119*		*70 - 130*	*08/22/23 17:33*	*08/23/23 13:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**92.3**		4.98		mg/Kg			08/22/23 14:39	1

Client Sample ID: BES23-32 1'

Lab Sample ID: 890-5133-8
Matrix: Solid
Date Collected: 08/18/23 09:35
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 14:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 14:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 14:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/23/23 08:56	08/23/23 14:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/23/23 08:56	08/23/23 14:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/23/23 08:56*	*08/23/23 14:33*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*08/23/23 08:56*	*08/23/23 14:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/24/23 11:38	1

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-32 1'

Lab Sample ID: 890-5133-8
Matrix: Solid
Date Collected: 08/18/23 09:35
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/22/23 17:33	08/23/23 13:38	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/22/23 17:33	08/23/23 13:38	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/22/23 17:33	08/23/23 13:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*08/22/23 17:33*	*08/23/23 13:38*	*1*
o-Terphenyl	*121*		*70 - 130*	*08/22/23 17:33*	*08/23/23 13:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**87.2**		5.02		mg/Kg			08/22/23 14:46	1

Client Sample ID: BES23-33 1'

Lab Sample ID: 890-5133-9
Matrix: Solid
Date Collected: 08/18/23 09:40
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/23/23 08:56	08/23/23 14:54	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/23/23 08:56	08/23/23 14:54	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/23/23 08:56	08/23/23 14:54	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/23/23 08:56	08/23/23 14:54	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/23/23 08:56	08/23/23 14:54	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/23/23 08:56	08/23/23 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/23/23 08:56*	*08/23/23 14:54*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*08/23/23 08:56*	*08/23/23 14:54*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/22/23 17:33	08/23/23 14:00	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/22/23 17:33	08/23/23 14:00	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/22/23 17:33	08/23/23 14:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*08/22/23 17:33*	*08/23/23 14:00*	*1*
o-Terphenyl	*115*		*70 - 130*	*08/22/23 17:33*	*08/23/23 14:00*	*1*

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-33 1'

Lab Sample ID: 890-5133-9
Matrix: Solid
Date Collected: 08/18/23 09:40
Date Received: 08/18/23 16:27
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	111		5.03		mg/Kg			08/22/23 14:52	1

Client Sample ID: BES23-34 1'

Lab Sample ID: 890-5133-10
Matrix: Solid
Date Collected: 08/18/23 09:45
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 15:15	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 15:15	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 15:15	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/23/23 08:56	08/23/23 15:15	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/23/23 08:56	08/23/23 15:15	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/23/23 08:56*	*08/23/23 15:15*	*1*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*	*08/23/23 08:56*	*08/23/23 15:15*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/22/23 17:33	08/23/23 14:22	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/22/23 17:33	08/23/23 14:22	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/22/23 17:33	08/23/23 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*08/22/23 17:33*	*08/23/23 14:22*	*1*
o-Terphenyl	*117*		*70 - 130*	*08/22/23 17:33*	*08/23/23 14:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	84.1		4.99		mg/Kg			08/22/23 14:59	1

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-35 1'

Lab Sample ID: 890-5133-11
Matrix: Solid
Date Collected: 08/18/23 09:50
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 16:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 16:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 16:40	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/23/23 08:56	08/23/23 16:40	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/23/23 08:56	08/23/23 16:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*08/23/23 08:56*	*08/23/23 16:40*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*08/23/23 08:56*	*08/23/23 16:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 15:07	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 15:07	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*08/22/23 17:33*	*08/23/23 15:07*	*1*
o-Terphenyl	*113*		*70 - 130*	*08/22/23 17:33*	*08/23/23 15:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**88.0**		4.97		mg/Kg			08/22/23 15:06	1

Client Sample ID: BES23-36 1'

Lab Sample ID: 890-5133-12
Matrix: Solid
Date Collected: 08/18/23 09:55
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 17:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 17:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 17:00	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/23/23 08:56	08/23/23 17:00	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/23/23 08:56	08/23/23 17:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*08/23/23 08:56*	*08/23/23 17:00*	*1*

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Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-36 1'

Lab Sample ID: 890-5133-12
Matrix: Solid
Date Collected: 08/18/23 09:55
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*124*		*70 - 130*	*08/23/23 08:56*	*08/23/23 17:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/22/23 17:33	08/23/23 15:29	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/22/23 17:33	08/23/23 15:29	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/22/23 17:33	08/23/23 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*08/22/23 17:33*	*08/23/23 15:29*	*1*
o-Terphenyl	*112*		*70 - 130*	*08/22/23 17:33*	*08/23/23 15:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**89.5**		5.03		mg/Kg			08/22/23 15:26	1

Client Sample ID: BES23-37 1'

Lab Sample ID: 890-5133-13
Matrix: Solid
Date Collected: 08/18/23 10:00
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/23/23 08:56	08/23/23 17:21	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/23/23 08:56	08/23/23 17:21	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/23/23 08:56	08/23/23 17:21	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/23/23 08:56	08/23/23 17:21	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/23/23 08:56	08/23/23 17:21	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/23/23 08:56	08/23/23 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/23/23 08:56*	*08/23/23 17:21*	*1*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*	*08/23/23 08:56*	*08/23/23 17:21*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/24/23 11:38	1

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Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-37 1'

Lab Sample ID: 890-5133-13
Matrix: Solid
Date Collected: 08/18/23 10:00
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/22/23 17:33	08/23/23 15:51	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/22/23 17:33	08/23/23 15:51	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/22/23 17:33	08/23/23 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*08/22/23 17:33*	*08/23/23 15:51*	*1*
o-Terphenyl	*121*		*70 - 130*	*08/22/23 17:33*	*08/23/23 15:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**90.8**		5.04		mg/Kg			08/22/23 15:32	1

Client Sample ID: BES23-38 1'

Lab Sample ID: 890-5133-14
Matrix: Solid
Date Collected: 08/18/23 10:05
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 17:42	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 17:42	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 17:42	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/23/23 08:56	08/23/23 17:42	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/23/23 08:56	08/23/23 17:42	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/23/23 08:56*	*08/23/23 17:42*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*08/23/23 08:56*	*08/23/23 17:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/22/23 17:33	08/23/23 16:13	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/22/23 17:33	08/23/23 16:13	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/22/23 17:33	08/23/23 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*08/22/23 17:33*	*08/23/23 16:13*	*1*
o-Terphenyl	*120*		*70 - 130*	*08/22/23 17:33*	*08/23/23 16:13*	*1*

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-38 1'

Lab Sample ID: 890-5133-14
Matrix: Solid
Date Collected: 08/18/23 10:05
Date Received: 08/18/23 16:27
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	90.5		5.01		mg/Kg			08/22/23 15:52	1

Client Sample ID: BES23-39 1'

Lab Sample ID: 890-5133-15
Matrix: Solid
Date Collected: 08/18/23 10:10
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 18:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 18:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 18:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/23/23 08:56	08/23/23 18:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/23/23 08:56	08/23/23 18:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/23/23 08:56*	*08/23/23 18:03*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*08/23/23 08:56*	*08/23/23 18:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/22/23 17:33	08/23/23 16:35	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/22/23 17:33	08/23/23 16:35	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/22/23 17:33	08/23/23 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*08/22/23 17:33*	*08/23/23 16:35*	*1*
o-Terphenyl	*121*		*70 - 130*	*08/22/23 17:33*	*08/23/23 16:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	171		5.02		mg/Kg			08/22/23 15:59	1

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-40 1'

Lab Sample ID: 890-5133-16
Matrix: Solid
Date Collected: 08/18/23 10:15
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/23/23 08:56	08/23/23 18:23	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/23/23 08:56	08/23/23 18:23	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/23/23 08:56	08/23/23 18:23	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/23/23 08:56	08/23/23 18:23	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/23/23 08:56	08/23/23 18:23	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/23/23 08:56	08/23/23 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*08/23/23 08:56*	*08/23/23 18:23*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*08/23/23 08:56*	*08/23/23 18:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 16:57	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 16:57	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*08/22/23 17:33*	*08/23/23 16:57*	*1*
o-Terphenyl	*111*		*70 - 130*	*08/22/23 17:33*	*08/23/23 16:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**70.7**		5.00		mg/Kg			08/22/23 16:06	1

Client Sample ID: BES23-41 1'

Lab Sample ID: 890-5133-17
Matrix: Solid
Date Collected: 08/18/23 10:20
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 18:44	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 18:44	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 18:44	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/23/23 08:56	08/23/23 18:44	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/23/23 08:56	08/23/23 18:44	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/23/23 08:56	08/23/23 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/23/23 08:56*	*08/23/23 18:44*	*1*

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Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-41 1'

Lab Sample ID: 890-5133-17
Matrix: Solid
Date Collected: 08/18/23 10:20
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*08/23/23 08:56*	*08/23/23 18:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 17:19	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 17:19	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/22/23 17:33	08/23/23 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*08/22/23 17:33*	*08/23/23 17:19*	*1*
o-Terphenyl	*108*		*70 - 130*	*08/22/23 17:33*	*08/23/23 17:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**94.0**		5.00		mg/Kg			08/22/23 16:12	1

Client Sample ID: BES23-42 1'

Lab Sample ID: 890-5133-18
Matrix: Solid
Date Collected: 08/18/23 10:25
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 19:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 19:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 19:05	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/23/23 08:56	08/23/23 19:05	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/23/23 08:56	08/23/23 19:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/23/23 08:56*	*08/23/23 19:05*	*1*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*	*08/23/23 08:56*	*08/23/23 19:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/24/23 11:38	1

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Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-42 1'

Lab Sample ID: 890-5133-18
Matrix: Solid
Date Collected: 08/18/23 10:25
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 17:41	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 17:41	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/22/23 17:33	08/23/23 17:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*08/22/23 17:33*	*08/23/23 17:41*	*1*
o-Terphenyl	*114*		*70 - 130*	*08/22/23 17:33*	*08/23/23 17:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**88.4**		4.97		mg/Kg			08/22/23 16:19	1

Client Sample ID: BES23-43 1'

Lab Sample ID: 890-5133-19
Matrix: Solid
Date Collected: 08/18/23 10:30
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 19:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 19:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 19:25	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/23/23 08:56	08/23/23 19:25	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/23/23 08:56	08/23/23 19:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*08/23/23 08:56*	*08/23/23 19:25*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*08/23/23 08:56*	*08/23/23 19:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/22/23 17:33	08/23/23 18:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/22/23 17:33	08/23/23 18:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/22/23 17:33	08/23/23 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*08/22/23 17:33*	*08/23/23 18:03*	*1*
o-Terphenyl	*111*		*70 - 130*	*08/22/23 17:33*	*08/23/23 18:03*	*1*

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-43 1'

Lab Sample ID: 890-5133-19
Matrix: Solid
Date Collected: 08/18/23 10:30
Date Received: 08/18/23 16:27
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	112		4.98		mg/Kg			08/22/23 16:26	1

Client Sample ID: BES23-44 1'

Lab Sample ID: 890-5133-20
Matrix: Solid
Date Collected: 08/18/23 10:35
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 19:46	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 19:46	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 19:46	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/23/23 08:56	08/23/23 19:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/23/23 08:56	08/23/23 19:46	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/23/23 08:56	08/23/23 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/23/23 08:56*	*08/23/23 19:46*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*08/23/23 08:56*	*08/23/23 19:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/24/23 09:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5		mg/Kg			08/24/23 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5		mg/Kg		08/22/23 17:33	08/23/23 18:25	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5		mg/Kg		08/22/23 17:33	08/23/23 18:25	1
OII Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		08/22/23 17:33	08/23/23 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*08/22/23 17:33*	*08/23/23 18:25*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/22/23 17:33*	*08/23/23 18:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99.8		5.03		mg/Kg			08/22/23 16:32	1

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-45 1'

Lab Sample ID: 890-5133-21
Matrix: Solid
Date Collected: 08/18/23 10:40
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/22/23 13:18	08/23/23 05:12	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/22/23 13:18	08/23/23 05:12	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/22/23 13:18	08/23/23 05:12	1
Xylenes, Total	<0.00396	U *+	0.00396		mg/Kg		08/22/23 13:18	08/23/23 05:12	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/22/23 13:18	08/23/23 05:12	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		08/22/23 13:18	08/23/23 05:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/22/23 13:18*	*08/23/23 05:12*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*08/22/23 13:18*	*08/23/23 05:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/23/23 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 17:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 17:14	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*08/23/23 16:00*	*08/24/23 17:14*	*1*
o-Terphenyl	*113*		*70 - 130*	*08/23/23 16:00*	*08/24/23 17:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**82.6**		5.01		mg/Kg			08/22/23 14:05	1

Client Sample ID: BES23-46 1'

Lab Sample ID: 890-5133-22
Matrix: Solid
Date Collected: 08/18/23 10:45
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/22/23 13:18	08/23/23 05:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/22/23 13:18	08/23/23 05:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/22/23 13:18	08/23/23 05:33	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		08/22/23 13:18	08/23/23 05:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/22/23 13:18	08/23/23 05:33	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		08/22/23 13:18	08/23/23 05:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*08/22/23 13:18*	*08/23/23 05:33*	*1*

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-46 1'

Date Collected: 08/18/23 10:45
Date Received: 08/18/23 16:27
Sample Depth: 1

Lab Sample ID: 890-5133-22

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*08/22/23 13:18*	*08/23/23 05:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/23/23 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/23/23 16:00	08/24/23 17:36	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/23/23 16:00	08/24/23 17:36	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/23/23 16:00	08/24/23 17:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*08/23/23 16:00*	*08/24/23 17:36*	*1*
o-Terphenyl	*112*		*70 - 130*	*08/23/23 16:00*	*08/24/23 17:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**74.1**		4.98		mg/Kg			08/22/23 14:27	1

Client Sample ID: BES23-47 1'

Date Collected: 08/18/23 10:50
Date Received: 08/18/23 16:27
Sample Depth: 1

Lab Sample ID: 890-5133-23

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/22/23 13:18	08/23/23 05:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/22/23 13:18	08/23/23 05:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/22/23 13:18	08/23/23 05:53	1
Xylenes, Total	<0.00400	U *+	0.00400		mg/Kg		08/22/23 13:18	08/23/23 05:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/22/23 13:18	08/23/23 05:53	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		08/22/23 13:18	08/23/23 05:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/22/23 13:18*	*08/23/23 05:53*	*1*
1,4-Difluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*08/22/23 13:18*	*08/23/23 05:53*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			08/23/23 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/25/23 11:26	1

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Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-47 1'

Lab Sample ID: 890-5133-23
Matrix: Solid
Date Collected: 08/18/23 10:50
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/23/23 16:00	08/24/23 17:58	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/23/23 16:00	08/24/23 17:58	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/23/23 16:00	08/24/23 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*08/23/23 16:00*	*08/24/23 17:58*	*1*
o-Terphenyl	*111*		*70 - 130*	*08/23/23 16:00*	*08/24/23 17:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**72.6**		4.97		mg/Kg			08/22/23 14:34	1

Client Sample ID: BES23-48 1'

Lab Sample ID: 890-5133-24
Matrix: Solid
Date Collected: 08/18/23 10:55
Date Received: 08/18/23 16:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/22/23 13:18	08/23/23 06:13	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/22/23 13:18	08/23/23 06:13	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/22/23 13:18	08/23/23 06:13	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		08/22/23 13:18	08/23/23 06:13	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/22/23 13:18	08/23/23 06:13	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		08/22/23 13:18	08/23/23 06:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*08/22/23 13:18*	*08/23/23 06:13*	*1*
1,4-Difluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*08/22/23 13:18*	*08/23/23 06:13*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/23/23 12:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/23/23 16:00	08/24/23 18:20	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/23/23 16:00	08/24/23 18:20	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/23/23 16:00	08/24/23 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*08/23/23 16:00*	*08/24/23 18:20*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/23/23 16:00*	*08/24/23 18:20*	*1*

Client Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-48 1'
Date Collected: 08/18/23 10:55
Date Received: 08/18/23 16:27
Sample Depth: 1

Lab Sample ID: 890-5133-24
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99.0		5.02		mg/Kg			08/22/23 14:41	1

Surrogate Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-32364-A-1-G MS	Matrix Spike	120	115
880-32364-A-1-H MSD	Matrix Spike Duplicate	125	94
890-5133-1	BES23-25 1'	78	114
890-5133-1 MS	BES23-25 1'	90	101
890-5133-1 MSD	BES23-25 1'	92	111
890-5133-2	BES23-26 1'	82	116
890-5133-3	BES23-27 1'	86	118
890-5133-4	BES23-28 1	84	119
890-5133-5	BES23-29 1'	86	120
890-5133-6	BES23-30 1'	80	115
890-5133-7	BES23-31 1'	80	113
890-5133-8	BES23-32 1'	82	117
890-5133-9	BES23-33 1'	84	118
890-5133-10	BES23-34 1'	86	122
890-5133-11	BES23-35 1'	77	116
890-5133-12	BES23-36 1'	89	124
890-5133-13	BES23-37 1'	82	120
890-5133-14	BES23-38 1'	83	118
890-5133-15	BES23-39 1'	85	119
890-5133-16	BES23-40 1'	80	117
890-5133-17	BES23-41 1'	85	115
890-5133-18	BES23-42 1'	85	120
890-5133-19	BES23-43 1'	80	115
890-5133-20	BES23-44 1'	84	116
890-5133-21	BES23-45 1'	99	77
890-5133-22	BES23-46 1'	104	67 S1-
890-5133-23	BES23-47 1'	101	67 S1-
890-5133-24	BES23-48 1'	102	60 S1-
LCS 880-60819/1-A	Lab Control Sample	131 S1+	113
LCS 880-60872/1-A	Lab Control Sample	93	114
LCSD 880-60819/2-A	Lab Control Sample Dup	118	111
LCSD 880-60872/2-A	Lab Control Sample Dup	84	111
MB 880-60581/5-A	Method Blank	73	97
MB 880-60819/5-A	Method Blank	76	79
MB 880-60872/5-A	Method Blank	72	103

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5133-1	BES23-25 1'	109	119
890-5133-1 MS	BES23-25 1'	101	101
890-5133-1 MSD	BES23-25 1'	104	103
890-5133-2	BES23-26 1'	105	115

Surrogate Summary

Client: Vertex Job ID: 890-5133-1
Project/Site: CARLETON SWD SDG: 23E-036256

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
890-5133-3	BES23-27 1'	109	118								
890-5133-4	BES23-28 1	124	132 S1+								
890-5133-5	BES23-29 1'	110	118								
890-5133-6	BES23-30 1'	113	122								
890-5133-7	BES23-31 1'	110	119								
890-5133-8	BES23-32 1'	111	121								
890-5133-9	BES23-33 1'	107	115								
890-5133-10	BES23-34 1'	107	117								
890-5133-11	BES23-35 1'	106	113								
890-5133-12	BES23-36 1'	104	112								
890-5133-13	BES23-37 1'	111	121								
890-5133-14	BES23-38 1'	110	120								
890-5133-15	BES23-39 1'	111	121								
890-5133-16	BES23-40 1'	104	111								
890-5133-17	BES23-41 1'	101	108								
890-5133-18	BES23-42 1'	105	114								
890-5133-19	BES23-43 1'	104	111								
890-5133-20	BES23-44 1'	108	118								
890-5133-21	BES23-45 1'	108	113								
890-5133-22	BES23-46 1'	105	112								
890-5133-23	BES23-47 1'	105	111								
890-5133-24	BES23-48 1'	104	110								
890-5137-A-1-E MS	Matrix Spike	125	114								
890-5137-A-1-F MSD	Matrix Spike Duplicate	124	112								
LCS 880-60845/2-A	Lab Control Sample	100	112								
LCS 880-60930/2-A	Lab Control Sample	123	129								
LCSD 880-60845/3-A	Lab Control Sample Dup	117	134 S1+								
LCSD 880-60930/3-A	Lab Control Sample Dup	122	129								
MB 880-60845/1-A	Method Blank	165 S1+	182 S1+								
MB 880-60930/1-A	Method Blank	162 S1+	175 S1+								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-60581/5-A
Matrix: Solid
Analysis Batch: 60780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60581

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/18/23 15:00	08/22/23 11:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/18/23 15:00	08/22/23 11:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/18/23 15:00	08/22/23 11:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/18/23 15:00	08/22/23 11:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/18/23 15:00	08/22/23 11:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/18/23 15:00	08/22/23 11:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*08/18/23 15:00*	*08/22/23 11:44*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*08/18/23 15:00*	*08/22/23 11:44*	*1*

Lab Sample ID: MB 880-60819/5-A
Matrix: Solid
Analysis Batch: 60780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60819

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/22/23 13:18	08/22/23 22:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/22/23 13:18	08/22/23 22:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/22/23 13:18	08/22/23 22:20	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/22/23 13:18	08/22/23 22:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/22/23 13:18	08/22/23 22:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/22/23 13:18	08/22/23 22:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*08/22/23 13:18*	*08/22/23 22:20*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*08/22/23 13:18*	*08/22/23 22:20*	*1*

Lab Sample ID: LCS 880-60819/1-A
Matrix: Solid
Analysis Batch: 60780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60819

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1043		mg/Kg		104	70 - 130
Ethylbenzene	0.100	0.1166		mg/Kg		117	70 - 130
Toluene	0.100	0.1184		mg/Kg		118	70 - 130
m-Xylene & p-Xylene	0.200	0.2598		mg/Kg		130	70 - 130
o-Xylene	0.100	0.1696	*+	mg/Kg		170	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-60819/2-A
Matrix: Solid
Analysis Batch: 60780

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60819

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09895		mg/Kg		99	70 - 130	5	35

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

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

Lab Sample ID: LCSD 880-60819/2-A
Matrix: Solid
Analysis Batch: 60780

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60819

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene			0.100	0.1067		mg/Kg		107	70 - 130	9	35
Toluene			0.100	0.1109		mg/Kg		111	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2329		mg/Kg		116	70 - 130	11	35
o-Xylene			0.100	0.1228		mg/Kg		123	70 - 130	32	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 880-32364-A-1-G MS
Matrix: Solid
Analysis Batch: 60780

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 60819

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.101	0.08869		mg/Kg		88	70 - 130
Ethylbenzene	<0.00199	U	0.101	0.08870		mg/Kg		88	70 - 130
Toluene	<0.00199	U	0.101	0.08968		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1904		mg/Kg		94	70 - 130
o-Xylene	<0.00199	U *+	0.101	0.1008		mg/Kg		100	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

Lab Sample ID: 880-32364-A-1-H MSD
Matrix: Solid
Analysis Batch: 60780

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 60819

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.08004		mg/Kg		81	70 - 130	10	35
Ethylbenzene	<0.00199	U	0.0990	0.09029		mg/Kg		91	70 - 130	2	35
Toluene	<0.00199	U	0.0990	0.08910		mg/Kg		90	70 - 130	1	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1931		mg/Kg		98	70 - 130	1	35
o-Xylene	<0.00199	U *+	0.0990	0.09858		mg/Kg		100	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-60872/5-A
Matrix: Solid
Analysis Batch: 60870

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60872

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 11:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 11:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 11:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/23/23 08:56	08/23/23 11:46	1

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

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

Lab Sample ID: MB 880-60872/5-A
Matrix: Solid
Analysis Batch: 60870

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60872

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/23/23 08:56	08/23/23 11:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/23/23 08:56	08/23/23 11:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*08/23/23 08:56*	*08/23/23 11:46*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*08/23/23 08:56*	*08/23/23 11:46*	*1*

Lab Sample ID: LCS 880-60872/1-A
Matrix: Solid
Analysis Batch: 60870

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60872

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1292		mg/Kg		129	70 - 130		
Ethylbenzene			0.100	0.09976		mg/Kg		100	70 - 130		
Toluene			0.100	0.1164		mg/Kg		116	70 - 130		
m-Xylene & p-Xylene			0.200	0.2113		mg/Kg		106	70 - 130		
o-Xylene			0.100	0.1034		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: LCSD 880-60872/2-A
Matrix: Solid
Analysis Batch: 60870

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60872

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1259		mg/Kg		126	70 - 130	3	35
Ethylbenzene			0.100	0.09014		mg/Kg		90	70 - 130	10	35
Toluene			0.100	0.1082		mg/Kg		108	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1880		mg/Kg		94	70 - 130	12	35
o-Xylene			0.100	0.09208		mg/Kg		92	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-5133-1 MS
Matrix: Solid
Analysis Batch: 60870

Client Sample ID: BES23-25 1'
Prep Type: Total/NA
Prep Batch: 60872

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.1045		mg/Kg		104	70 - 130		
Ethylbenzene	<0.00200	U	0.0996	0.08310		mg/Kg		83	70 - 130		
Toluene	<0.00200	U	0.0996	0.09867		mg/Kg		98	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1762		mg/Kg		88	70 - 130		
o-Xylene	<0.00200	U	0.0996	0.08636		mg/Kg		87	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

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

Lab Sample ID: 890-5133-1 MS
Matrix: Solid
Analysis Batch: 60870

Client Sample ID: BES23-25 1'
Prep Type: Total/NA
Prep Batch: 60872

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 890-5133-1 MSD
Matrix: Solid
Analysis Batch: 60870

Client Sample ID: BES23-25 1'
Prep Type: Total/NA
Prep Batch: 60872

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.1023		mg/Kg		102	70 - 130	2	35
Ethylbenzene	<0.00200	U	0.100	0.08458		mg/Kg		84	70 - 130	2	35
Toluene	<0.00200	U	0.100	0.1006		mg/Kg		99	70 - 130	2	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1772		mg/Kg		88	70 - 130	1	35
o-Xylene	<0.00200	U	0.100	0.08724		mg/Kg		87	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-60845/1-A
Matrix: Solid
Analysis Batch: 60858

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60845

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/22/23 17:33	08/23/23 07:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/22/23 17:33	08/23/23 07:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/22/23 17:33	08/23/23 07:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*165*	*S1+*	*70 - 130*	*08/22/23 17:33*	*08/23/23 07:45*	*1*
o-Terphenyl	*182*	*S1+*	*70 - 130*	*08/22/23 17:33*	*08/23/23 07:45*	*1*

Lab Sample ID: LCS 880-60845/2-A
Matrix: Solid
Analysis Batch: 60858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60845

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	978.1		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	1000	995.4		mg/Kg		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*112*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

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

Lab Sample ID: LCSD 880-60845/3-A
Matrix: Solid
Analysis Batch: 60858

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60845

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	959.3		mg/Kg		96	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	998.7		mg/Kg		100	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*134*	*S1+*	*70 - 130*

Lab Sample ID: 890-5133-1 MS
Matrix: Solid
Analysis Batch: 60858

Client Sample ID: BES23-25 1'
Prep Type: Total/NA
Prep Batch: 60845

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	997	1172		mg/Kg		116	70 - 130
Diesel Range Organics (Over C10-C28)	<50.1	U	997	854.3		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*101*		*70 - 130*

Lab Sample ID: 890-5133-1 MSD
Matrix: Solid
Analysis Batch: 60858

Client Sample ID: BES23-25 1'
Prep Type: Total/NA
Prep Batch: 60845

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	997	1185		mg/Kg		117	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.1	U	997	884.6		mg/Kg		86	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: MB 880-60930/1-A
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/23/23 16:00	08/24/23 08:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/23/23 16:00	08/24/23 08:11	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/23/23 16:00	08/24/23 08:11	1

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

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

Lab Sample ID: MB 880-60930/1-A
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60930

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	162	S1+	70 - 130	08/23/23 16:00	08/24/23 08:11	1
o-Terphenyl	175	S1+	70 - 130	08/23/23 16:00	08/24/23 08:11	1

Lab Sample ID: LCS 880-60930/2-A
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60930

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1010		mg/Kg		101	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1087		mg/Kg		109	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	129		70 - 130

Lab Sample ID: LCSD 880-60930/3-A
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60930

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1006		mg/Kg		101	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	998.9		mg/Kg		100	70 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	122		70 - 130
o-Terphenyl	129		70 - 130

Lab Sample ID: 890-5137-A-1-E MS
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 60930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	996	1110		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.1	U	996	1043		mg/Kg		102	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	114		70 - 130

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

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

Lab Sample ID: 890-5137-A-1-F MSD
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 60930

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	996	977.4		mg/Kg		96	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.1	U	996	1037		mg/Kg		101	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*112*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-60765/1-A
Matrix: Solid
Analysis Batch: 60820

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/22/23 13:44	1

Lab Sample ID: LCS 880-60765/2-A
Matrix: Solid
Analysis Batch: 60820

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	249.9		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-60765/3-A
Matrix: Solid
Analysis Batch: 60820

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	250.7		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-5133-21 MS
Matrix: Solid
Analysis Batch: 60820

Client Sample ID: BES23-45 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	82.6		251	335.2		mg/Kg		101	90 - 110

Lab Sample ID: 890-5133-21 MSD
Matrix: Solid
Analysis Batch: 60820

Client Sample ID: BES23-45 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	82.6		251	336.8		mg/Kg		101	90 - 110	0	20

QC Sample Results

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-60764/1-A
Matrix: Solid
Analysis Batch: 60821

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/22/23 13:11	1

Lab Sample ID: LCS 880-60764/2-A
Matrix: Solid
Analysis Batch: 60821

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	253.8		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-60764/3-A
Matrix: Solid
Analysis Batch: 60821

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	254.8		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 890-5133-1 MS
Matrix: Solid
Analysis Batch: 60821

Client Sample ID: BES23-25 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	131		249	372.7		mg/Kg		97	90 - 110		

Lab Sample ID: 890-5133-1 MSD
Matrix: Solid
Analysis Batch: 60821

Client Sample ID: BES23-25 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	131		249	374.0		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 890-5133-11 MS
Matrix: Solid
Analysis Batch: 60821

Client Sample ID: BES23-35 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	88.0		249	334.2		mg/Kg		99	90 - 110		

Lab Sample ID: 890-5133-11 MSD
Matrix: Solid
Analysis Batch: 60821

Client Sample ID: BES23-35 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	88.0		249	336.6		mg/Kg		100	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

GC VOA

Prep Batch: 60581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-60581/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 60780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-21	BES23-45 1'	Total/NA	Solid	8021B	60819
890-5133-22	BES23-46 1'	Total/NA	Solid	8021B	60819
890-5133-23	BES23-47 1'	Total/NA	Solid	8021B	60819
890-5133-24	BES23-48 1'	Total/NA	Solid	8021B	60819
MB 880-60581/5-A	Method Blank	Total/NA	Solid	8021B	60581
MB 880-60819/5-A	Method Blank	Total/NA	Solid	8021B	60819
LCS 880-60819/1-A	Lab Control Sample	Total/NA	Solid	8021B	60819
LCSD 880-60819/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	60819
880-32364-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	60819
880-32364-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	60819

Prep Batch: 60819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-21	BES23-45 1'	Total/NA	Solid	5035	
890-5133-22	BES23-46 1'	Total/NA	Solid	5035	
890-5133-23	BES23-47 1'	Total/NA	Solid	5035	
890-5133-24	BES23-48 1'	Total/NA	Solid	5035	
MB 880-60819/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-60819/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-60819/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32364-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
880-32364-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 60870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-1	BES23-25 1'	Total/NA	Solid	8021B	60872
890-5133-2	BES23-26 1'	Total/NA	Solid	8021B	60872
890-5133-3	BES23-27 1'	Total/NA	Solid	8021B	60872
890-5133-4	BES23-28 1	Total/NA	Solid	8021B	60872
890-5133-5	BES23-29 1'	Total/NA	Solid	8021B	60872
890-5133-6	BES23-30 1'	Total/NA	Solid	8021B	60872
890-5133-7	BES23-31 1'	Total/NA	Solid	8021B	60872
890-5133-8	BES23-32 1'	Total/NA	Solid	8021B	60872
890-5133-9	BES23-33 1'	Total/NA	Solid	8021B	60872
890-5133-10	BES23-34 1'	Total/NA	Solid	8021B	60872
890-5133-11	BES23-35 1'	Total/NA	Solid	8021B	60872
890-5133-12	BES23-36 1'	Total/NA	Solid	8021B	60872
890-5133-13	BES23-37 1'	Total/NA	Solid	8021B	60872
890-5133-14	BES23-38 1'	Total/NA	Solid	8021B	60872
890-5133-15	BES23-39 1'	Total/NA	Solid	8021B	60872
890-5133-16	BES23-40 1'	Total/NA	Solid	8021B	60872
890-5133-17	BES23-41 1'	Total/NA	Solid	8021B	60872
890-5133-18	BES23-42 1'	Total/NA	Solid	8021B	60872
890-5133-19	BES23-43 1'	Total/NA	Solid	8021B	60872
890-5133-20	BES23-44 1'	Total/NA	Solid	8021B	60872
MB 880-60872/5-A	Method Blank	Total/NA	Solid	8021B	60872
LCS 880-60872/1-A	Lab Control Sample	Total/NA	Solid	8021B	60872

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

GC VOA (Continued)

Analysis Batch: 60870 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-60872/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	60872
890-5133-1 MS	BES23-25 1'	Total/NA	Solid	8021B	60872
890-5133-1 MSD	BES23-25 1'	Total/NA	Solid	8021B	60872

Prep Batch: 60872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-1	BES23-25 1'	Total/NA	Solid	5035	
890-5133-2	BES23-26 1'	Total/NA	Solid	5035	
890-5133-3	BES23-27 1'	Total/NA	Solid	5035	
890-5133-4	BES23-28 1	Total/NA	Solid	5035	
890-5133-5	BES23-29 1'	Total/NA	Solid	5035	
890-5133-6	BES23-30 1'	Total/NA	Solid	5035	
890-5133-7	BES23-31 1'	Total/NA	Solid	5035	
890-5133-8	BES23-32 1'	Total/NA	Solid	5035	
890-5133-9	BES23-33 1'	Total/NA	Solid	5035	
890-5133-10	BES23-34 1'	Total/NA	Solid	5035	
890-5133-11	BES23-35 1'	Total/NA	Solid	5035	
890-5133-12	BES23-36 1'	Total/NA	Solid	5035	
890-5133-13	BES23-37 1'	Total/NA	Solid	5035	
890-5133-14	BES23-38 1'	Total/NA	Solid	5035	
890-5133-15	BES23-39 1'	Total/NA	Solid	5035	
890-5133-16	BES23-40 1'	Total/NA	Solid	5035	
890-5133-17	BES23-41 1'	Total/NA	Solid	5035	
890-5133-18	BES23-42 1'	Total/NA	Solid	5035	
890-5133-19	BES23-43 1'	Total/NA	Solid	5035	
890-5133-20	BES23-44 1'	Total/NA	Solid	5035	
MB 880-60872/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-60872/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-60872/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5133-1 MS	BES23-25 1'	Total/NA	Solid	5035	
890-5133-1 MSD	BES23-25 1'	Total/NA	Solid	5035	

Analysis Batch: 60921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-1	BES23-25 1'	Total/NA	Solid	Total BTEX	
890-5133-2	BES23-26 1'	Total/NA	Solid	Total BTEX	
890-5133-3	BES23-27 1'	Total/NA	Solid	Total BTEX	
890-5133-4	BES23-28 1	Total/NA	Solid	Total BTEX	
890-5133-5	BES23-29 1'	Total/NA	Solid	Total BTEX	
890-5133-6	BES23-30 1'	Total/NA	Solid	Total BTEX	
890-5133-7	BES23-31 1'	Total/NA	Solid	Total BTEX	
890-5133-8	BES23-32 1'	Total/NA	Solid	Total BTEX	
890-5133-9	BES23-33 1'	Total/NA	Solid	Total BTEX	
890-5133-10	BES23-34 1'	Total/NA	Solid	Total BTEX	
890-5133-11	BES23-35 1'	Total/NA	Solid	Total BTEX	
890-5133-12	BES23-36 1'	Total/NA	Solid	Total BTEX	
890-5133-13	BES23-37 1'	Total/NA	Solid	Total BTEX	
890-5133-14	BES23-38 1'	Total/NA	Solid	Total BTEX	
890-5133-15	BES23-39 1'	Total/NA	Solid	Total BTEX	
890-5133-16	BES23-40 1'	Total/NA	Solid	Total BTEX	
890-5133-17	BES23-41 1'	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

GC VOA (Continued)

Analysis Batch: 60921 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-18	BES23-42 1'	Total/NA	Solid	Total BTEX	
890-5133-19	BES23-43 1'	Total/NA	Solid	Total BTEX	
890-5133-20	BES23-44 1'	Total/NA	Solid	Total BTEX	
890-5133-21	BES23-45 1'	Total/NA	Solid	Total BTEX	
890-5133-22	BES23-46 1'	Total/NA	Solid	Total BTEX	
890-5133-23	BES23-47 1'	Total/NA	Solid	Total BTEX	
890-5133-24	BES23-48 1'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 60845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-1	BES23-25 1'	Total/NA	Solid	8015NM Prep	
890-5133-2	BES23-26 1'	Total/NA	Solid	8015NM Prep	
890-5133-3	BES23-27 1'	Total/NA	Solid	8015NM Prep	
890-5133-4	BES23-28 1	Total/NA	Solid	8015NM Prep	
890-5133-5	BES23-29 1'	Total/NA	Solid	8015NM Prep	
890-5133-6	BES23-30 1'	Total/NA	Solid	8015NM Prep	
890-5133-7	BES23-31 1'	Total/NA	Solid	8015NM Prep	
890-5133-8	BES23-32 1'	Total/NA	Solid	8015NM Prep	
890-5133-9	BES23-33 1'	Total/NA	Solid	8015NM Prep	
890-5133-10	BES23-34 1'	Total/NA	Solid	8015NM Prep	
890-5133-11	BES23-35 1'	Total/NA	Solid	8015NM Prep	
890-5133-12	BES23-36 1'	Total/NA	Solid	8015NM Prep	
890-5133-13	BES23-37 1'	Total/NA	Solid	8015NM Prep	
890-5133-14	BES23-38 1'	Total/NA	Solid	8015NM Prep	
890-5133-15	BES23-39 1'	Total/NA	Solid	8015NM Prep	
890-5133-16	BES23-40 1'	Total/NA	Solid	8015NM Prep	
890-5133-17	BES23-41 1'	Total/NA	Solid	8015NM Prep	
890-5133-18	BES23-42 1'	Total/NA	Solid	8015NM Prep	
890-5133-19	BES23-43 1'	Total/NA	Solid	8015NM Prep	
890-5133-20	BES23-44 1'	Total/NA	Solid	8015NM Prep	
MB 880-60845/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-60845/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-60845/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5133-1 MS	BES23-25 1'	Total/NA	Solid	8015NM Prep	
890-5133-1 MSD	BES23-25 1'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 60858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-1	BES23-25 1'	Total/NA	Solid	8015B NM	60845
890-5133-2	BES23-26 1'	Total/NA	Solid	8015B NM	60845
890-5133-3	BES23-27 1'	Total/NA	Solid	8015B NM	60845
890-5133-4	BES23-28 1	Total/NA	Solid	8015B NM	60845
890-5133-5	BES23-29 1'	Total/NA	Solid	8015B NM	60845
890-5133-6	BES23-30 1'	Total/NA	Solid	8015B NM	60845
890-5133-7	BES23-31 1'	Total/NA	Solid	8015B NM	60845
890-5133-8	BES23-32 1'	Total/NA	Solid	8015B NM	60845
890-5133-9	BES23-33 1'	Total/NA	Solid	8015B NM	60845
890-5133-10	BES23-34 1'	Total/NA	Solid	8015B NM	60845
890-5133-11	BES23-35 1'	Total/NA	Solid	8015B NM	60845

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

GC Semi VOA (Continued)

Analysis Batch: 60858 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-12	BES23-36 1'	Total/NA	Solid	8015B NM	60845
890-5133-13	BES23-37 1'	Total/NA	Solid	8015B NM	60845
890-5133-14	BES23-38 1'	Total/NA	Solid	8015B NM	60845
890-5133-15	BES23-39 1'	Total/NA	Solid	8015B NM	60845
890-5133-16	BES23-40 1'	Total/NA	Solid	8015B NM	60845
890-5133-17	BES23-41 1'	Total/NA	Solid	8015B NM	60845
890-5133-18	BES23-42 1'	Total/NA	Solid	8015B NM	60845
890-5133-19	BES23-43 1'	Total/NA	Solid	8015B NM	60845
890-5133-20	BES23-44 1'	Total/NA	Solid	8015B NM	60845
MB 880-60845/1-A	Method Blank	Total/NA	Solid	8015B NM	60845
LCS 880-60845/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	60845
LCSD 880-60845/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	60845
890-5133-1 MS	BES23-25 1'	Total/NA	Solid	8015B NM	60845
890-5133-1 MSD	BES23-25 1'	Total/NA	Solid	8015B NM	60845

Prep Batch: 60930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-21	BES23-45 1'	Total/NA	Solid	8015NM Prep	
890-5133-22	BES23-46 1'	Total/NA	Solid	8015NM Prep	
890-5133-23	BES23-47 1'	Total/NA	Solid	8015NM Prep	
890-5133-24	BES23-48 1'	Total/NA	Solid	8015NM Prep	
MB 880-60930/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-60930/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-60930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5137-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5137-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 60956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-21	BES23-45 1'	Total/NA	Solid	8015B NM	60930
890-5133-22	BES23-46 1'	Total/NA	Solid	8015B NM	60930
890-5133-23	BES23-47 1'	Total/NA	Solid	8015B NM	60930
890-5133-24	BES23-48 1'	Total/NA	Solid	8015B NM	60930
MB 880-60930/1-A	Method Blank	Total/NA	Solid	8015B NM	60930
LCS 880-60930/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	60930
LCSD 880-60930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	60930
890-5137-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	60930
890-5137-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	60930

Analysis Batch: 61007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-1	BES23-25 1'	Total/NA	Solid	8015 NM	
890-5133-2	BES23-26 1'	Total/NA	Solid	8015 NM	
890-5133-3	BES23-27 1'	Total/NA	Solid	8015 NM	
890-5133-4	BES23-28 1	Total/NA	Solid	8015 NM	
890-5133-5	BES23-29 1'	Total/NA	Solid	8015 NM	
890-5133-6	BES23-30 1'	Total/NA	Solid	8015 NM	
890-5133-7	BES23-31 1'	Total/NA	Solid	8015 NM	
890-5133-8	BES23-32 1'	Total/NA	Solid	8015 NM	
890-5133-9	BES23-33 1'	Total/NA	Solid	8015 NM	
890-5133-10	BES23-34 1'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

GC Semi VOA (Continued)

Analysis Batch: 61007 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-11	BES23-35 1'	Total/NA	Solid	8015 NM	
890-5133-12	BES23-36 1'	Total/NA	Solid	8015 NM	
890-5133-13	BES23-37 1'	Total/NA	Solid	8015 NM	
890-5133-14	BES23-38 1'	Total/NA	Solid	8015 NM	
890-5133-15	BES23-39 1'	Total/NA	Solid	8015 NM	
890-5133-16	BES23-40 1'	Total/NA	Solid	8015 NM	
890-5133-17	BES23-41 1'	Total/NA	Solid	8015 NM	
890-5133-18	BES23-42 1'	Total/NA	Solid	8015 NM	
890-5133-19	BES23-43 1'	Total/NA	Solid	8015 NM	
890-5133-20	BES23-44 1'	Total/NA	Solid	8015 NM	
890-5133-21	BES23-45 1'	Total/NA	Solid	8015 NM	
890-5133-22	BES23-46 1'	Total/NA	Solid	8015 NM	
890-5133-23	BES23-47 1'	Total/NA	Solid	8015 NM	
890-5133-24	BES23-48 1'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 60764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-1	BES23-25 1'	Soluble	Solid	DI Leach	
890-5133-2	BES23-26 1'	Soluble	Solid	DI Leach	
890-5133-3	BES23-27 1'	Soluble	Solid	DI Leach	
890-5133-4	BES23-28 1	Soluble	Solid	DI Leach	
890-5133-5	BES23-29 1'	Soluble	Solid	DI Leach	
890-5133-6	BES23-30 1'	Soluble	Solid	DI Leach	
890-5133-7	BES23-31 1'	Soluble	Solid	DI Leach	
890-5133-8	BES23-32 1'	Soluble	Solid	DI Leach	
890-5133-9	BES23-33 1'	Soluble	Solid	DI Leach	
890-5133-10	BES23-34 1'	Soluble	Solid	DI Leach	
890-5133-11	BES23-35 1'	Soluble	Solid	DI Leach	
890-5133-12	BES23-36 1'	Soluble	Solid	DI Leach	
890-5133-13	BES23-37 1'	Soluble	Solid	DI Leach	
890-5133-14	BES23-38 1'	Soluble	Solid	DI Leach	
890-5133-15	BES23-39 1'	Soluble	Solid	DI Leach	
890-5133-16	BES23-40 1'	Soluble	Solid	DI Leach	
890-5133-17	BES23-41 1'	Soluble	Solid	DI Leach	
890-5133-18	BES23-42 1'	Soluble	Solid	DI Leach	
890-5133-19	BES23-43 1'	Soluble	Solid	DI Leach	
890-5133-20	BES23-44 1'	Soluble	Solid	DI Leach	
MB 880-60764/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-60764/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-60764/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5133-1 MS	BES23-25 1'	Soluble	Solid	DI Leach	
890-5133-1 MSD	BES23-25 1'	Soluble	Solid	DI Leach	
890-5133-11 MS	BES23-35 1'	Soluble	Solid	DI Leach	
890-5133-11 MSD	BES23-35 1'	Soluble	Solid	DI Leach	

Leach Batch: 60765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-21	BES23-45 1'	Soluble	Solid	DI Leach	
890-5133-22	BES23-46 1'	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

HPLC/IC (Continued)

Leach Batch: 60765 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-23	BES23-47 1'	Soluble	Solid	DI Leach	
890-5133-24	BES23-48 1'	Soluble	Solid	DI Leach	
MB 880-60765/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-60765/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-60765/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5133-21 MS	BES23-45 1'	Soluble	Solid	DI Leach	
890-5133-21 MSD	BES23-45 1'	Soluble	Solid	DI Leach	

Analysis Batch: 60820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-21	BES23-45 1'	Soluble	Solid	300.0	60765
890-5133-22	BES23-46 1'	Soluble	Solid	300.0	60765
890-5133-23	BES23-47 1'	Soluble	Solid	300.0	60765
890-5133-24	BES23-48 1'	Soluble	Solid	300.0	60765
MB 880-60765/1-A	Method Blank	Soluble	Solid	300.0	60765
LCS 880-60765/2-A	Lab Control Sample	Soluble	Solid	300.0	60765
LCSD 880-60765/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	60765
890-5133-21 MS	BES23-45 1'	Soluble	Solid	300.0	60765
890-5133-21 MSD	BES23-45 1'	Soluble	Solid	300.0	60765

Analysis Batch: 60821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5133-1	BES23-25 1'	Soluble	Solid	300.0	60764
890-5133-2	BES23-26 1'	Soluble	Solid	300.0	60764
890-5133-3	BES23-27 1'	Soluble	Solid	300.0	60764
890-5133-4	BES23-28 1	Soluble	Solid	300.0	60764
890-5133-5	BES23-29 1'	Soluble	Solid	300.0	60764
890-5133-6	BES23-30 1'	Soluble	Solid	300.0	60764
890-5133-7	BES23-31 1'	Soluble	Solid	300.0	60764
890-5133-8	BES23-32 1'	Soluble	Solid	300.0	60764
890-5133-9	BES23-33 1'	Soluble	Solid	300.0	60764
890-5133-10	BES23-34 1'	Soluble	Solid	300.0	60764
890-5133-11	BES23-35 1'	Soluble	Solid	300.0	60764
890-5133-12	BES23-36 1'	Soluble	Solid	300.0	60764
890-5133-13	BES23-37 1'	Soluble	Solid	300.0	60764
890-5133-14	BES23-38 1'	Soluble	Solid	300.0	60764
890-5133-15	BES23-39 1'	Soluble	Solid	300.0	60764
890-5133-16	BES23-40 1'	Soluble	Solid	300.0	60764
890-5133-17	BES23-41 1'	Soluble	Solid	300.0	60764
890-5133-18	BES23-42 1'	Soluble	Solid	300.0	60764
890-5133-19	BES23-43 1'	Soluble	Solid	300.0	60764
890-5133-20	BES23-44 1'	Soluble	Solid	300.0	60764
MB 880-60764/1-A	Method Blank	Soluble	Solid	300.0	60764
LCS 880-60764/2-A	Lab Control Sample	Soluble	Solid	300.0	60764
LCSD 880-60764/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	60764
890-5133-1 MS	BES23-25 1'	Soluble	Solid	300.0	60764
890-5133-1 MSD	BES23-25 1'	Soluble	Solid	300.0	60764
890-5133-11 MS	BES23-35 1'	Soluble	Solid	300.0	60764
890-5133-11 MSD	BES23-35 1'	Soluble	Solid	300.0	60764

Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-25 1'
Date Collected: 08/18/23 09:00
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 12:08	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 10:20	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 13:33	CH	EET MID

Client Sample ID: BES23-26 1'
Date Collected: 08/18/23 09:05
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 12:29	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 11:26	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 13:53	CH	EET MID

Client Sample ID: BES23-27 1'
Date Collected: 08/18/23 09:10
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 12:50	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 11:48	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 13:59	CH	EET MID

Client Sample ID: BES23-28 1
Date Collected: 08/18/23 09:15
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 13:10	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-28 1

Lab Sample ID: 890-5133-4
Matrix: Solid
Date Collected: 08/18/23 09:15
Date Received: 08/18/23 16:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 12:10	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 14:06	CH	EET MID

Client Sample ID: BES23-29 1'

Lab Sample ID: 890-5133-5
Matrix: Solid
Date Collected: 08/18/23 09:20
Date Received: 08/18/23 16:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 13:31	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 12:32	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 14:13	CH	EET MID

Client Sample ID: BES23-30 1'

Lab Sample ID: 890-5133-6
Matrix: Solid
Date Collected: 08/18/23 09:25
Date Received: 08/18/23 16:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 13:52	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 12:54	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 14:33	CH	EET MID

Client Sample ID: BES23-31 1'

Lab Sample ID: 890-5133-7
Matrix: Solid
Date Collected: 08/18/23 09:30
Date Received: 08/18/23 16:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 14:13	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 13:16	SM	EET MID

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Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-31 1'
Date Collected: 08/18/23 09:30
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 14:39	CH	EET MID

Client Sample ID: BES23-32 1'
Date Collected: 08/18/23 09:35
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 14:33	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 13:38	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 14:46	CH	EET MID

Client Sample ID: BES23-33 1'
Date Collected: 08/18/23 09:40
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 14:54	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 14:00	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 14:52	CH	EET MID

Client Sample ID: BES23-34 1'
Date Collected: 08/18/23 09:45
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 15:15	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 14:22	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 14:59	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-35 1'
Lab Sample ID: 890-5133-11
Date Collected: 08/18/23 09:50
Matrix: Solid
Date Received: 08/18/23 16:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 16:40	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 15:07	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 15:06	CH	EET MID

Client Sample ID: BES23-36 1'
Lab Sample ID: 890-5133-12
Date Collected: 08/18/23 09:55
Matrix: Solid
Date Received: 08/18/23 16:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 17:00	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 15:29	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 15:26	CH	EET MID

Client Sample ID: BES23-37 1'
Lab Sample ID: 890-5133-13
Date Collected: 08/18/23 10:00
Matrix: Solid
Date Received: 08/18/23 16:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 17:21	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 15:51	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 15:32	CH	EET MID

Client Sample ID: BES23-38 1'
Lab Sample ID: 890-5133-14
Date Collected: 08/18/23 10:05
Matrix: Solid
Date Received: 08/18/23 16:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 17:42	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID

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Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-38 1'
Date Collected: 08/18/23 10:05
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 16:13	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 15:52	CH	EET MID

Client Sample ID: BES23-39 1'
Date Collected: 08/18/23 10:10
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 18:03	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 16:35	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 15:59	CH	EET MID

Client Sample ID: BES23-40 1'
Date Collected: 08/18/23 10:15
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 18:23	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 16:57	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 16:06	CH	EET MID

Client Sample ID: BES23-41 1'
Date Collected: 08/18/23 10:20
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 18:44	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 17:19	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-41 1'
Date Collected: 08/18/23 10:20
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 16:12	CH	EET MID

Client Sample ID: BES23-42 1'
Date Collected: 08/18/23 10:25
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 19:05	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 17:41	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 16:19	CH	EET MID

Client Sample ID: BES23-43 1'
Date Collected: 08/18/23 10:30
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 19:25	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 18:03	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 16:26	CH	EET MID

Client Sample ID: BES23-44 1'
Date Collected: 08/18/23 10:35
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	60872	08/23/23 08:56	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60870	08/23/23 19:46	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/24/23 09:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/24/23 11:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	60845	08/22/23 17:33	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60858	08/23/23 18:25	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	60764	08/22/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60821	08/22/23 16:32	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-45 1'
Date Collected: 08/18/23 10:40
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	60819	08/22/23 13:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60780	08/23/23 05:12	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/23/23 12:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 17:14	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	60765	08/22/23 11:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60820	08/22/23 14:05	CH	EET MID

Client Sample ID: BES23-46 1'
Date Collected: 08/18/23 10:45
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	60819	08/22/23 13:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60780	08/23/23 05:33	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/23/23 12:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 17:36	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	60765	08/22/23 11:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60820	08/22/23 14:27	CH	EET MID

Client Sample ID: BES23-47 1'
Date Collected: 08/18/23 10:50
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	60819	08/22/23 13:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60780	08/23/23 05:53	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/23/23 12:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61007	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 17:58	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60765	08/22/23 11:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60820	08/22/23 14:34	CH	EET MID

Client Sample ID: BES23-48 1'
Date Collected: 08/18/23 10:55
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	60819	08/22/23 13:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60780	08/23/23 06:13	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60921	08/23/23 12:35	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Client Sample ID: BES23-48 1'

Date Collected: 08/18/23 10:55
Date Received: 08/18/23 16:27

Lab Sample ID: 890-5133-24

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61007	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 18:20	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	60765	08/22/23 11:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60820	08/22/23 14:41	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: CARLETON SWD

Job ID: 890-5133-1
SDG: 23E-036256

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5133-1	BES23-25 1'	Solid	08/18/23 09:00	08/18/23 16:27	1
890-5133-2	BES23-26 1'	Solid	08/18/23 09:05	08/18/23 16:27	1
890-5133-3	BES23-27 1'	Solid	08/18/23 09:10	08/18/23 16:27	1
890-5133-4	BES23-28 1	Solid	08/18/23 09:15	08/18/23 16:27	1
890-5133-5	BES23-29 1'	Solid	08/18/23 09:20	08/18/23 16:27	1
890-5133-6	BES23-30 1'	Solid	08/18/23 09:25	08/18/23 16:27	1
890-5133-7	BES23-31 1'	Solid	08/18/23 09:30	08/18/23 16:27	1
890-5133-8	BES23-32 1'	Solid	08/18/23 09:35	08/18/23 16:27	1
890-5133-9	BES23-33 1'	Solid	08/18/23 09:40	08/18/23 16:27	1
890-5133-10	BES23-34 1'	Solid	08/18/23 09:45	08/18/23 16:27	1
890-5133-11	BES23-35 1'	Solid	08/18/23 09:50	08/18/23 16:27	1
890-5133-12	BES23-36 1'	Solid	08/18/23 09:55	08/18/23 16:27	1
890-5133-13	BES23-37 1'	Solid	08/18/23 10:00	08/18/23 16:27	1
890-5133-14	BES23-38 1'	Solid	08/18/23 10:05	08/18/23 16:27	1
890-5133-15	BES23-39 1'	Solid	08/18/23 10:10	08/18/23 16:27	1
890-5133-16	BES23-40 1'	Solid	08/18/23 10:15	08/18/23 16:27	1
890-5133-17	BES23-41 1'	Solid	08/18/23 10:20	08/18/23 16:27	1
890-5133-18	BES23-42 1'	Solid	08/18/23 10:25	08/18/23 16:27	1
890-5133-19	BES23-43 1'	Solid	08/18/23 10:30	08/18/23 16:27	1
890-5133-20	BES23-44 1'	Solid	08/18/23 10:35	08/18/23 16:27	1
890-5133-21	BES23-45 1'	Solid	08/18/23 10:40	08/18/23 16:27	1
890-5133-22	BES23-46 1'	Solid	08/18/23 10:45	08/18/23 16:27	1
890-5133-23	BES23-47 1'	Solid	08/18/23 10:50	08/18/23 16:27	1
890-5133-24	BES23-48 1'	Solid	08/18/23 10:55	08/18/23 16:27	1

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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

Work Order No: _____

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Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	cdixon@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☐ Routine ☒ Rush	
Project Location:		Due Date:	48W
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)
Samples Received Intact:	(Yes) No	Thermometer ID:	TM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	~~TM-007~~ 0.0
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	18.8
Total Containers:		Corrected Temperature:	18.6

ANALYSIS REQUEST

890-5133 Chain of Custody

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	Grab/Comp	# of Cont	Pres. Code	TPH	BTEX	Cl	Sample Comments
BES23-25 1'	Soil	8/18/23	9:00		5			X	X	X	
BES23-26 1'			9:05								
BES23-27 1'			9:10								
BES23-28 1'			9:15								
BES23-29 1'			9:20								
BES23-30 1'			9:25								
BES23-31 1'			9:30								
BES23-32 1'			9:35								
BES23-33 1'			9:40								
BES23-34 1'			9:45		5			X	X	X	

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Hunter Klein		8-18-23 16:27			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

8/25/2023

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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

Work Order No: _____

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Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

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

Project Name:		Turn Around	
Project Number:		☐ Routine ☒ Rush	
Project Location:		Due Date:	4 Hour
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)	
Samples Received Intact:	(Yes) No	Thermometer ID:	T_NM_00	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	18.8	
Total Containers:		Corrected Temperature:	18.6	

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	Grab/ Comp	# of Cont	Pres. Code	Parameters: TPH	BTEX	Cl	Sample Comments
BES23-35	Soil	6/16/23	9:50		5			X	X	X	
BES23-36			9:55								
BES23-37			10:00								
BES23-38			10:05								
BES23-39			10:10								
BES23-40			10:15								
BES23-41			10:20								
BES23-42			10:25								
BES23-43			10:30								
BES23-44			10:35		5			X	X	X	

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Hunter Klein		8-18-23 10:27	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

8/25/2023

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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

Work Order No: _____

www.xenco.com Page 3 of 3

Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

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

Project Name:		Turn Around	
Project Number:		☐Routine ☐Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)
Samples Received Intact:	(Yes) No	Thermometer ID:	T_NM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	18.8
Total Containers:		Corrected Temperature:	18.6

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: TPH	BTEX	Cl
BES23-45	Soil	6/18/23	10:40		Comp	5		X	X	X
BES23-46			10:45							
BES23-47			10:50							
BES23-48			10:55			5		X	X	X

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

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	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Hunter Klein	Abrahm	8-18-23 16:27	2		
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM
Released to Imaging: 3/19/2024 9:29:09 AM
8/25/2023
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Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5133-1
SDG Number: 23E-036256

Login Number: 5133
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5133-1
SDG Number: 23E-036256

Login Number: 5133
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/22/23 11:19 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	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/25/2023 11:49:47 AM

JOB DESCRIPTION

Carleton SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-5137-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

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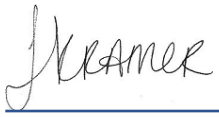
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
8/25/2023 11:49:47 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-5137-1
SDG: 23E-03626

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Definitions/Glossary

Client: Vertex Job ID: 890-5137-1
Project/Site: Carleton SWD SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Job ID: 890-5137-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5137-1

Receipt
The samples were received on 8/21/2023 4:26 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 22.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BES23-49 1' (890-5137-1), BES23-50 1' (890-5137-2), BES23-51 1' (890-5137-3), BES23-52 1' (890-5137-4), BES23-53 1 (890-5137-5), BES23-54 1' (890-5137-6), BES23-55 1' (890-5137-7), BES23-56 1' (890-5137-8), BES23-57 1' (890-5137-9), BES23-58 1' (890-5137-10), BES23-59 1' (890-5137-11), BES23-60 1' (890-5137-12), BES23-61 1' (890-5137-13) and BES23-62 1' (890-5137-14).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: BES23-52 1' (890-5137-4), BES23-53 1 (890-5137-5) and BES23-54 1' (890-5137-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-60968/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BES23-56 1' (890-5137-8), BES23-57 1' (890-5137-9) and BES23-58 1' (890-5137-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: BES23-62 1' (890-5137-14). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-60930 and analytical batch 880-60956 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-60 1' (890-5137-12), BES23-61 1' (890-5137-13) and BES23-62 1' (890-5137-14). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-60956/20), (CCV 880-60956/31) and (CCV 880-60956/5). Evidence of matrix interferences is not obvious.

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: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-60878 and analytical batch 880-60936 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control 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.

Released to Imaging: 3/19/2024 9:29:09 AM

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-49 1'

Date Collected: 08/21/23 08:00
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 12:37	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 12:37	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 12:37	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/24/23 09:15	08/24/23 12:37	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/24/23 09:15	08/24/23 12:37	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 12:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*08/24/23 09:15*	*08/24/23 12:37*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*08/24/23 09:15*	*08/24/23 12:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/23/23 16:00	08/24/23 10:42	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/23/23 16:00	08/24/23 10:42	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/23/23 16:00	08/24/23 10:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*08/23/23 16:00*	*08/24/23 10:42*	*1*
o-Terphenyl	*115*		*70 - 130*	*08/23/23 16:00*	*08/24/23 10:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**552**	**F1**	5.02		mg/Kg			08/24/23 07:29	1

Client Sample ID: BES23-50 1'

Date Collected: 08/21/23 08:05
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 13:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 13:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 13:03	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/24/23 09:15	08/24/23 13:03	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/24/23 09:15	08/24/23 13:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*08/24/23 09:15*	*08/24/23 13:03*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*08/24/23 09:15*	*08/24/23 13:03*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-50 1'

Date Collected: 08/21/23 08:05
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-2
Matrix: Solid

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**468**		50.5		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**468**		50.5		mg/Kg		08/23/23 16:00	08/24/23 11:47	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/23/23 16:00	08/24/23 11:47	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/23/23 16:00	08/24/23 11:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*08/23/23 16:00*	*08/24/23 11:47*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/23/23 16:00*	*08/24/23 11:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**358**		5.00		mg/Kg			08/24/23 07:51	1

Client Sample ID: BES23-51 1'

Date Collected: 08/21/23 08:10
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 13:29	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 13:29	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 13:29	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/24/23 09:15	08/24/23 13:29	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/24/23 09:15	08/24/23 13:29	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*08/24/23 09:15*	*08/24/23 13:29*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*08/24/23 09:15*	*08/24/23 13:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**851**		50.2		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**851**		50.2		mg/Kg		08/23/23 16:00	08/24/23 12:09	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/23/23 16:00	08/24/23 12:09	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-51 1'

Date Collected: 08/21/23 08:10
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-3

Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/23/23 16:00	08/24/23 12:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*08/23/23 16:00*	*08/24/23 12:09*	*1*
o-Terphenyl	*129*		*70 - 130*	*08/23/23 16:00*	*08/24/23 12:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**389**		4.98		mg/Kg			08/24/23 07:58	1

Client Sample ID: BES23-52 1'

Date Collected: 08/21/23 08:15
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 13:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 13:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 13:54	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/24/23 09:15	08/24/23 13:54	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/24/23 09:15	08/24/23 13:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*	*08/24/23 09:15*	*08/24/23 13:54*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*08/24/23 09:15*	*08/24/23 13:54*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/23/23 16:00	08/24/23 12:31	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/23/23 16:00	08/24/23 12:31	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/23/23 16:00	08/24/23 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*08/23/23 16:00*	*08/24/23 12:31*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/23/23 16:00*	*08/24/23 12:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**263**		4.96		mg/Kg			08/24/23 08:05	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-53 1

Date Collected: 08/21/23 08:20
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/24/23 09:15	08/24/23 14:20	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/24/23 09:15	08/24/23 14:20	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/24/23 09:15	08/24/23 14:20	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/24/23 09:15	08/24/23 14:20	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/24/23 09:15	08/24/23 14:20	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/24/23 09:15	08/24/23 14:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*08/24/23 09:15*	*08/24/23 14:20*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/24/23 09:15*	*08/24/23 14:20*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 12:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 12:52	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 12:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*08/23/23 16:00*	*08/24/23 12:52*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/23/23 16:00*	*08/24/23 12:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**287**		5.00		mg/Kg			08/24/23 08:12	1

Client Sample ID: BES23-54 1'

Date Collected: 08/21/23 08:25
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 14:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 14:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 14:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/24/23 09:15	08/24/23 14:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/24/23 09:15	08/24/23 14:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*144*	*S1+*	*70 - 130*	*08/24/23 09:15*	*08/24/23 14:46*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*08/24/23 09:15*	*08/24/23 14:46*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-54 1'

Date Collected: 08/21/23 08:25
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-6
Matrix: Solid

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**433**		49.6		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**433**		49.6		mg/Kg		08/23/23 16:00	08/24/23 13:14	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/23/23 16:00	08/24/23 13:14	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/23/23 16:00	08/24/23 13:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/23/23 16:00*	*08/24/23 13:14*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/23/23 16:00*	*08/24/23 13:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**119**		4.95		mg/Kg			08/24/23 08:34	1

Client Sample ID: BES23-55 1'

Date Collected: 08/21/23 08:30
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/24/23 09:15	08/24/23 15:11	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/24/23 09:15	08/24/23 15:11	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/24/23 09:15	08/24/23 15:11	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/24/23 09:15	08/24/23 15:11	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/24/23 09:15	08/24/23 15:11	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/24/23 09:15	08/24/23 15:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*	*08/24/23 09:15*	*08/24/23 15:11*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*08/24/23 09:15*	*08/24/23 15:11*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/23/23 16:00	08/24/23 13:36	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/23/23 16:00	08/24/23 13:36	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-55 1'

Date Collected: 08/21/23 08:30
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-7
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/23/23 16:00	08/24/23 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/23/23 16:00*	*08/24/23 13:36*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/23/23 16:00*	*08/24/23 13:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**144**		5.01		mg/Kg			08/24/23 08:41	1

Client Sample ID: BES23-56 1'

Date Collected: 08/21/23 08:35
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 16:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 16:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 16:24	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/24/23 09:15	08/24/23 16:24	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/24/23 09:15	08/24/23 16:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*	*08/24/23 09:15*	*08/24/23 16:24*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*08/24/23 09:15*	*08/24/23 16:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/23/23 16:00	08/24/23 13:58	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/23/23 16:00	08/24/23 13:58	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/23/23 16:00	08/24/23 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*08/23/23 16:00*	*08/24/23 13:58*	*1*
o-Terphenyl	*106*		*70 - 130*	*08/23/23 16:00*	*08/24/23 13:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**82.6**		4.99		mg/Kg			08/24/23 08:48	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-57 1'

Lab Sample ID: 890-5137-9
Matrix: Solid
Date Collected: 08/21/23 08:40
Date Received: 08/21/23 16:26

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 16:49	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 16:49	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 16:49	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/24/23 09:15	08/24/23 16:49	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/24/23 09:15	08/24/23 16:49	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 16:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*158*	*S1+*	*70 - 130*	*08/24/23 09:15*	*08/24/23 16:49*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*08/24/23 09:15*	*08/24/23 16:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 14:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 14:20	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 14:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*08/23/23 16:00*	*08/24/23 14:20*	*1*
o-Terphenyl	*126*		*70 - 130*	*08/23/23 16:00*	*08/24/23 14:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**82.0**		4.95		mg/Kg			08/24/23 08:55	1

Client Sample ID: BES23-58 1'

Lab Sample ID: 890-5137-10
Matrix: Solid
Date Collected: 08/21/23 08:45
Date Received: 08/21/23 16:26

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 17:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 17:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 17:15	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/24/23 09:15	08/24/23 17:15	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/24/23 09:15	08/24/23 17:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*149*	*S1+*	*70 - 130*	*08/24/23 09:15*	*08/24/23 17:15*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*08/24/23 09:15*	*08/24/23 17:15*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-58 1'

Date Collected: 08/21/23 08:45
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-10
Matrix: Solid

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/23/23 16:00	08/24/23 14:41	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/23/23 16:00	08/24/23 14:41	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/23/23 16:00	08/24/23 14:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*08/23/23 16:00*	*08/24/23 14:41*	*1*
o-Terphenyl	*128*		*70 - 130*	*08/23/23 16:00*	*08/24/23 14:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**74.3**		4.98		mg/Kg			08/24/23 09:03	1

Client Sample ID: BES23-59 1'

Date Collected: 08/21/23 08:50
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-11
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 19:02	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 19:02	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 19:02	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/24/23 09:15	08/24/23 19:02	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/24/23 09:15	08/24/23 19:02	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/24/23 09:15	08/24/23 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*08/24/23 09:15*	*08/24/23 19:02*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*08/24/23 09:15*	*08/24/23 19:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/23/23 16:00	08/24/23 15:47	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/23/23 16:00	08/24/23 15:47	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-59 1'
Date Collected: 08/21/23 08:50
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-11
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/23/23 16:00	08/24/23 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*08/23/23 16:00*	*08/24/23 15:47*	*1*
o-Terphenyl	*125*		*70 - 130*	*08/23/23 16:00*	*08/24/23 15:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**42.5**	**F1**	4.97		mg/Kg			08/24/23 09:10	1

Client Sample ID: BES23-60 1'
Date Collected: 08/21/23 08:55
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-12
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/24/23 09:15	08/24/23 19:28	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/24/23 09:15	08/24/23 19:28	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/24/23 09:15	08/24/23 19:28	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/24/23 09:15	08/24/23 19:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/24/23 09:15	08/24/23 19:28	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/24/23 09:15	08/24/23 19:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*08/24/23 09:15*	*08/24/23 19:28*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*08/24/23 09:15*	*08/24/23 19:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 16:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 16:09	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/23/23 16:00	08/24/23 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*08/23/23 16:00*	*08/24/23 16:09*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*08/23/23 16:00*	*08/24/23 16:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**92.1**		4.96		mg/Kg			08/24/23 09:31	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-61 1'

Date Collected: 08/21/23 09:00
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-13

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 19:53	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 19:53	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 19:53	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/24/23 09:15	08/24/23 19:53	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/24/23 09:15	08/24/23 19:53	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 19:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*08/24/23 09:15*	*08/24/23 19:53*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*08/24/23 09:15*	*08/24/23 19:53*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/23/23 16:00	08/24/23 16:31	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/23/23 16:00	08/24/23 16:31	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/23/23 16:00	08/24/23 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*239*	*S1+*	*70 - 130*	*08/23/23 16:00*	*08/24/23 16:31*	*1*
o-Terphenyl	*245*	*S1+*	*70 - 130*	*08/23/23 16:00*	*08/24/23 16:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**134**		5.00		mg/Kg			08/24/23 09:38	1

Client Sample ID: BES23-62 1'

Date Collected: 08/21/23 09:05
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-14

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 20:19	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 20:19	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 20:19	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/24/23 09:15	08/24/23 20:19	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/24/23 09:15	08/24/23 20:19	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/24/23 09:15	08/24/23 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*172*	*S1+*	*70 - 130*	*08/24/23 09:15*	*08/24/23 20:19*	*1*
1,4-Difluorobenzene (Surr)	*125*		*70 - 130*	*08/24/23 09:15*	*08/24/23 20:19*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-62 1'

Date Collected: 08/21/23 09:05
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-14

Matrix: Solid

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/25/23 09:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/25/23 11:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/23/23 16:00	08/24/23 16:53	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/23/23 16:00	08/24/23 16:53	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/23/23 16:00	08/24/23 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*08/23/23 16:00*	*08/24/23 16:53*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*08/23/23 16:00*	*08/24/23 16:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**836**		4.99		mg/Kg			08/24/23 10:00	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-5137-1	BES23-49 1'	127	96
890-5137-1 MS	BES23-49 1'	123	109
890-5137-1 MSD	BES23-49 1'	113	100
890-5137-2	BES23-50 1'	124	85
890-5137-3	BES23-51 1'	126	82
890-5137-4	BES23-52 1'	134 S1+	112
890-5137-5	BES23-53 1	137 S1+	95
890-5137-6	BES23-54 1'	144 S1+	112
890-5137-7	BES23-55 1'	125	93
890-5137-8	BES23-56 1'	134 S1+	109
890-5137-9	BES23-57 1'	158 S1+	117
890-5137-10	BES23-58 1'	149 S1+	106
890-5137-11	BES23-59 1'	117	86
890-5137-12	BES23-60 1'	111	77
890-5137-13	BES23-61 1'	129	92
890-5137-14	BES23-62 1'	172 S1+	125
LCS 880-60968/1-A	Lab Control Sample	117	107
LCSD 880-60968/2-A	Lab Control Sample Dup	119	95
MB 880-60968/5-A	Method Blank	69 S1-	84

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5137-1	BES23-49 1'	107	115
890-5137-1 MS	BES23-49 1'	125	114
890-5137-1 MSD	BES23-49 1'	124	112
890-5137-2	BES23-50 1'	104	110
890-5137-3	BES23-51 1'	123	129
890-5137-4	BES23-52 1'	103	110
890-5137-5	BES23-53 1	103	107
890-5137-6	BES23-54 1'	102	107
890-5137-7	BES23-55 1'	102	107
890-5137-8	BES23-56 1'	101	106
890-5137-9	BES23-57 1'	120	126
890-5137-10	BES23-58 1'	122	128
890-5137-11	BES23-59 1'	119	125
890-5137-12	BES23-60 1'	124	133 S1+
890-5137-13	BES23-61 1'	239 S1+	245 S1+
890-5137-14	BES23-62 1'	124	132 S1+
LCS 880-60930/2-A	Lab Control Sample	123	129
LCSD 880-60930/3-A	Lab Control Sample Dup	122	129
MB 880-60930/1-A	Method Blank	162 S1+	175 S1+

Surrogate Legend

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-60968/5-A
Matrix: Solid
Analysis Batch: 60962

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60968

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 12:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 12:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 12:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/24/23 09:15	08/24/23 12:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/24/23 09:15	08/24/23 12:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/23 09:15	08/24/23 12:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*08/24/23 09:15*	*08/24/23 12:12*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*08/24/23 09:15*	*08/24/23 12:12*	*1*

Lab Sample ID: LCS 880-60968/1-A
Matrix: Solid
Analysis Batch: 60962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60968

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1067		mg/Kg		107	70 - 130		
Ethylbenzene			0.100	0.1029		mg/Kg		103	70 - 130		
Toluene			0.100	0.1016		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene			0.200	0.2080		mg/Kg		104	70 - 130		
o-Xylene			0.100	0.1043		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 880-60968/2-A
Matrix: Solid
Analysis Batch: 60962

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60968

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1105		mg/Kg		111	70 - 130	4	35
Ethylbenzene			0.100	0.1103		mg/Kg		110	70 - 130	7	35
Toluene			0.100	0.1101		mg/Kg		110	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2218		mg/Kg		111	70 - 130	6	35
o-Xylene			0.100	0.1106		mg/Kg		111	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-5137-1 MS
Matrix: Solid
Analysis Batch: 60962

Client Sample ID: BES23-49 1'
Prep Type: Total/NA
Prep Batch: 60968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0996	0.09310		mg/Kg		93	70 - 130		
Ethylbenzene	<0.00202	U	0.0996	0.08557		mg/Kg		86	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

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

Lab Sample ID: 890-5137-1 MS
Matrix: Solid
Analysis Batch: 60962

Client Sample ID: BES23-49 1'
Prep Type: Total/NA
Prep Batch: 60968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00202	U	0.0996	0.09023		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1711		mg/Kg		85	70 - 130
o-Xylene	<0.00202	U	0.0996	0.08398		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-5137-1 MSD
Matrix: Solid
Analysis Batch: 60962

Client Sample ID: BES23-49 1'
Prep Type: Total/NA
Prep Batch: 60968

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.101	0.08587		mg/Kg		85	70 - 130	8	35
Ethylbenzene	<0.00202	U	0.101	0.08081		mg/Kg		80	70 - 130	6	35
Toluene	<0.00202	U	0.101	0.08872		mg/Kg		88	70 - 130	2	35
m-Xylene & p-Xylene	<0.00403	U	0.201	0.1595		mg/Kg		79	70 - 130	7	35
o-Xylene	<0.00202	U	0.101	0.07849		mg/Kg		78	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-60930/1-A
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/23/23 16:00	08/24/23 08:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/23/23 16:00	08/24/23 08:11	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/23/23 16:00	08/24/23 08:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*162*	*S1+*	*70 - 130*	*08/23/23 16:00*	*08/24/23 08:11*	*1*
o-Terphenyl	*175*	*S1+*	*70 - 130*	*08/23/23 16:00*	*08/24/23 08:11*	*1*

Lab Sample ID: LCS 880-60930/2-A
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60930

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1010		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1087		mg/Kg		109	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

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

Lab Sample ID: LCS 880-60930/2-A
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60930

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	129		70 - 130

Lab Sample ID: LCSD 880-60930/3-A
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60930

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1006		mg/Kg		101	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	998.9		mg/Kg		100	70 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	122		70 - 130
o-Terphenyl	129		70 - 130

Lab Sample ID: 890-5137-1 MS
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: BES23-49 1'
Prep Type: Total/NA
Prep Batch: 60930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	996	1110		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.1	U	996	1043		mg/Kg		102	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: 890-5137-1 MSD
Matrix: Solid
Analysis Batch: 60956

Client Sample ID: BES23-49 1'
Prep Type: Total/NA
Prep Batch: 60930

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	996	977.4		mg/Kg		96	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.1	U	996	1037		mg/Kg		101	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	124		70 - 130
o-Terphenyl	112		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-60878/1-A
Matrix: Solid
Analysis Batch: 60936

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/24/23 07:08	1

Lab Sample ID: LCS 880-60878/2-A
Matrix: Solid
Analysis Batch: 60936

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	250.3		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-60878/3-A
Matrix: Solid
Analysis Batch: 60936

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	251.1		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-5137-1 MS
Matrix: Solid
Analysis Batch: 60936

Client Sample ID: BES23-49 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	552	F1	251	770.9	F1	mg/Kg		87	90 - 110		

Lab Sample ID: 890-5137-1 MSD
Matrix: Solid
Analysis Batch: 60936

Client Sample ID: BES23-49 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	552	F1	251	773.8	F1	mg/Kg		88	90 - 110	0	20

Lab Sample ID: 890-5137-11 MS
Matrix: Solid
Analysis Batch: 60936

Client Sample ID: BES23-59 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	42.5	F1	249	362.3	F1	mg/Kg		129	90 - 110		

Lab Sample ID: 890-5137-11 MSD
Matrix: Solid
Analysis Batch: 60936

Client Sample ID: BES23-59 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	42.5	F1	249	363.2	F1	mg/Kg		129	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

GC VOA

Analysis Batch: 60962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-1	BES23-49 1'	Total/NA	Solid	8021B	60968
890-5137-2	BES23-50 1'	Total/NA	Solid	8021B	60968
890-5137-3	BES23-51 1'	Total/NA	Solid	8021B	60968
890-5137-4	BES23-52 1'	Total/NA	Solid	8021B	60968
890-5137-5	BES23-53 1	Total/NA	Solid	8021B	60968
890-5137-6	BES23-54 1'	Total/NA	Solid	8021B	60968
890-5137-7	BES23-55 1'	Total/NA	Solid	8021B	60968
890-5137-8	BES23-56 1'	Total/NA	Solid	8021B	60968
890-5137-9	BES23-57 1'	Total/NA	Solid	8021B	60968
890-5137-10	BES23-58 1'	Total/NA	Solid	8021B	60968
890-5137-11	BES23-59 1'	Total/NA	Solid	8021B	60968
890-5137-12	BES23-60 1'	Total/NA	Solid	8021B	60968
890-5137-13	BES23-61 1'	Total/NA	Solid	8021B	60968
890-5137-14	BES23-62 1'	Total/NA	Solid	8021B	60968
MB 880-60968/5-A	Method Blank	Total/NA	Solid	8021B	60968
LCS 880-60968/1-A	Lab Control Sample	Total/NA	Solid	8021B	60968
LCSD 880-60968/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	60968
890-5137-1 MS	BES23-49 1'	Total/NA	Solid	8021B	60968
890-5137-1 MSD	BES23-49 1'	Total/NA	Solid	8021B	60968

Prep Batch: 60968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-1	BES23-49 1'	Total/NA	Solid	5035	
890-5137-2	BES23-50 1'	Total/NA	Solid	5035	
890-5137-3	BES23-51 1'	Total/NA	Solid	5035	
890-5137-4	BES23-52 1'	Total/NA	Solid	5035	
890-5137-5	BES23-53 1	Total/NA	Solid	5035	
890-5137-6	BES23-54 1'	Total/NA	Solid	5035	
890-5137-7	BES23-55 1'	Total/NA	Solid	5035	
890-5137-8	BES23-56 1'	Total/NA	Solid	5035	
890-5137-9	BES23-57 1'	Total/NA	Solid	5035	
890-5137-10	BES23-58 1'	Total/NA	Solid	5035	
890-5137-11	BES23-59 1'	Total/NA	Solid	5035	
890-5137-12	BES23-60 1'	Total/NA	Solid	5035	
890-5137-13	BES23-61 1'	Total/NA	Solid	5035	
890-5137-14	BES23-62 1'	Total/NA	Solid	5035	
MB 880-60968/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-60968/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-60968/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5137-1 MS	BES23-49 1'	Total/NA	Solid	5035	
890-5137-1 MSD	BES23-49 1'	Total/NA	Solid	5035	

Analysis Batch: 61099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-1	BES23-49 1'	Total/NA	Solid	Total BTEX	
890-5137-2	BES23-50 1'	Total/NA	Solid	Total BTEX	
890-5137-3	BES23-51 1'	Total/NA	Solid	Total BTEX	
890-5137-4	BES23-52 1'	Total/NA	Solid	Total BTEX	
890-5137-5	BES23-53 1	Total/NA	Solid	Total BTEX	
890-5137-6	BES23-54 1'	Total/NA	Solid	Total BTEX	
890-5137-7	BES23-55 1'	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

GC VOA (Continued)

Analysis Batch: 61099 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-8	BES23-56 1'	Total/NA	Solid	Total BTEX	
890-5137-9	BES23-57 1'	Total/NA	Solid	Total BTEX	
890-5137-10	BES23-58 1'	Total/NA	Solid	Total BTEX	
890-5137-11	BES23-59 1'	Total/NA	Solid	Total BTEX	
890-5137-12	BES23-60 1'	Total/NA	Solid	Total BTEX	
890-5137-13	BES23-61 1'	Total/NA	Solid	Total BTEX	
890-5137-14	BES23-62 1'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 60930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-1	BES23-49 1'	Total/NA	Solid	8015NM Prep	
890-5137-2	BES23-50 1'	Total/NA	Solid	8015NM Prep	
890-5137-3	BES23-51 1'	Total/NA	Solid	8015NM Prep	
890-5137-4	BES23-52 1'	Total/NA	Solid	8015NM Prep	
890-5137-5	BES23-53 1	Total/NA	Solid	8015NM Prep	
890-5137-6	BES23-54 1'	Total/NA	Solid	8015NM Prep	
890-5137-7	BES23-55 1'	Total/NA	Solid	8015NM Prep	
890-5137-8	BES23-56 1'	Total/NA	Solid	8015NM Prep	
890-5137-9	BES23-57 1'	Total/NA	Solid	8015NM Prep	
890-5137-10	BES23-58 1'	Total/NA	Solid	8015NM Prep	
890-5137-11	BES23-59 1'	Total/NA	Solid	8015NM Prep	
890-5137-12	BES23-60 1'	Total/NA	Solid	8015NM Prep	
890-5137-13	BES23-61 1'	Total/NA	Solid	8015NM Prep	
890-5137-14	BES23-62 1'	Total/NA	Solid	8015NM Prep	
MB 880-60930/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-60930/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-60930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5137-1 MS	BES23-49 1'	Total/NA	Solid	8015NM Prep	
890-5137-1 MSD	BES23-49 1'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 60956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-1	BES23-49 1'	Total/NA	Solid	8015B NM	60930
890-5137-2	BES23-50 1'	Total/NA	Solid	8015B NM	60930
890-5137-3	BES23-51 1'	Total/NA	Solid	8015B NM	60930
890-5137-4	BES23-52 1'	Total/NA	Solid	8015B NM	60930
890-5137-5	BES23-53 1	Total/NA	Solid	8015B NM	60930
890-5137-6	BES23-54 1'	Total/NA	Solid	8015B NM	60930
890-5137-7	BES23-55 1'	Total/NA	Solid	8015B NM	60930
890-5137-8	BES23-56 1'	Total/NA	Solid	8015B NM	60930
890-5137-9	BES23-57 1'	Total/NA	Solid	8015B NM	60930
890-5137-10	BES23-58 1'	Total/NA	Solid	8015B NM	60930
890-5137-11	BES23-59 1'	Total/NA	Solid	8015B NM	60930
890-5137-12	BES23-60 1'	Total/NA	Solid	8015B NM	60930
890-5137-13	BES23-61 1'	Total/NA	Solid	8015B NM	60930
890-5137-14	BES23-62 1'	Total/NA	Solid	8015B NM	60930
MB 880-60930/1-A	Method Blank	Total/NA	Solid	8015B NM	60930
LCS 880-60930/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	60930
LCSD 880-60930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	60930

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

GC Semi VOA (Continued)

Analysis Batch: 60956 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-1 MS	BES23-49 1'	Total/NA	Solid	8015B NM	60930
890-5137-1 MSD	BES23-49 1'	Total/NA	Solid	8015B NM	60930

Analysis Batch: 61126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-1	BES23-49 1'	Total/NA	Solid	8015 NM	
890-5137-2	BES23-50 1'	Total/NA	Solid	8015 NM	
890-5137-3	BES23-51 1'	Total/NA	Solid	8015 NM	
890-5137-4	BES23-52 1'	Total/NA	Solid	8015 NM	
890-5137-5	BES23-53 1	Total/NA	Solid	8015 NM	
890-5137-6	BES23-54 1'	Total/NA	Solid	8015 NM	
890-5137-7	BES23-55 1'	Total/NA	Solid	8015 NM	
890-5137-8	BES23-56 1'	Total/NA	Solid	8015 NM	
890-5137-9	BES23-57 1'	Total/NA	Solid	8015 NM	
890-5137-10	BES23-58 1'	Total/NA	Solid	8015 NM	
890-5137-11	BES23-59 1'	Total/NA	Solid	8015 NM	
890-5137-12	BES23-60 1'	Total/NA	Solid	8015 NM	
890-5137-13	BES23-61 1'	Total/NA	Solid	8015 NM	
890-5137-14	BES23-62 1'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 60878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-1	BES23-49 1'	Soluble	Solid	DI Leach	
890-5137-2	BES23-50 1'	Soluble	Solid	DI Leach	
890-5137-3	BES23-51 1'	Soluble	Solid	DI Leach	
890-5137-4	BES23-52 1'	Soluble	Solid	DI Leach	
890-5137-5	BES23-53 1	Soluble	Solid	DI Leach	
890-5137-6	BES23-54 1'	Soluble	Solid	DI Leach	
890-5137-7	BES23-55 1'	Soluble	Solid	DI Leach	
890-5137-8	BES23-56 1'	Soluble	Solid	DI Leach	
890-5137-9	BES23-57 1'	Soluble	Solid	DI Leach	
890-5137-10	BES23-58 1'	Soluble	Solid	DI Leach	
890-5137-11	BES23-59 1'	Soluble	Solid	DI Leach	
890-5137-12	BES23-60 1'	Soluble	Solid	DI Leach	
890-5137-13	BES23-61 1'	Soluble	Solid	DI Leach	
890-5137-14	BES23-62 1'	Soluble	Solid	DI Leach	
MB 880-60878/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-60878/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-60878/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5137-1 MS	BES23-49 1'	Soluble	Solid	DI Leach	
890-5137-1 MSD	BES23-49 1'	Soluble	Solid	DI Leach	
890-5137-11 MS	BES23-59 1'	Soluble	Solid	DI Leach	
890-5137-11 MSD	BES23-59 1'	Soluble	Solid	DI Leach	

Analysis Batch: 60936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-1	BES23-49 1'	Soluble	Solid	300.0	60878
890-5137-2	BES23-50 1'	Soluble	Solid	300.0	60878
890-5137-3	BES23-51 1'	Soluble	Solid	300.0	60878

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

HPLC/IC (Continued)

Analysis Batch: 60936 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5137-4	BES23-52 1'	Soluble	Solid	300.0	60878
890-5137-5	BES23-53 1	Soluble	Solid	300.0	60878
890-5137-6	BES23-54 1'	Soluble	Solid	300.0	60878
890-5137-7	BES23-55 1'	Soluble	Solid	300.0	60878
890-5137-8	BES23-56 1'	Soluble	Solid	300.0	60878
890-5137-9	BES23-57 1'	Soluble	Solid	300.0	60878
890-5137-10	BES23-58 1'	Soluble	Solid	300.0	60878
890-5137-11	BES23-59 1'	Soluble	Solid	300.0	60878
890-5137-12	BES23-60 1'	Soluble	Solid	300.0	60878
890-5137-13	BES23-61 1'	Soluble	Solid	300.0	60878
890-5137-14	BES23-62 1'	Soluble	Solid	300.0	60878
MB 880-60878/1-A	Method Blank	Soluble	Solid	300.0	60878
LCS 880-60878/2-A	Lab Control Sample	Soluble	Solid	300.0	60878
LCSD 880-60878/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	60878
890-5137-1 MS	BES23-49 1'	Soluble	Solid	300.0	60878
890-5137-1 MSD	BES23-49 1'	Soluble	Solid	300.0	60878
890-5137-11 MS	BES23-59 1'	Soluble	Solid	300.0	60878
890-5137-11 MSD	BES23-59 1'	Soluble	Solid	300.0	60878

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-49 1'
Date Collected: 08/21/23 08:00
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 12:37	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 10:42	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 07:29	CH	EET MID

Client Sample ID: BES23-50 1'
Date Collected: 08/21/23 08:05
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 13:03	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 11:47	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 07:51	CH	EET MID

Client Sample ID: BES23-51 1'
Date Collected: 08/21/23 08:10
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 13:29	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 12:09	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 07:58	CH	EET MID

Client Sample ID: BES23-52 1'
Date Collected: 08/21/23 08:15
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 13:54	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID

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Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-52 1'
Date Collected: 08/21/23 08:15
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 12:31	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 08:05	CH	EET MID

Client Sample ID: BES23-53 1
Date Collected: 08/21/23 08:20
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 14:20	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 12:52	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 08:12	CH	EET MID

Client Sample ID: BES23-54 1'
Date Collected: 08/21/23 08:25
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 14:46	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 13:14	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 08:34	CH	EET MID

Client Sample ID: BES23-55 1'
Date Collected: 08/21/23 08:30
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 15:11	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 13:36	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-55 1'
Date Collected: 08/21/23 08:30
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 08:41	CH	EET MID

Client Sample ID: BES23-56 1'
Date Collected: 08/21/23 08:35
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 16:24	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 13:58	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 08:48	CH	EET MID

Client Sample ID: BES23-57 1'
Date Collected: 08/21/23 08:40
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 16:49	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 14:20	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 08:55	CH	EET MID

Client Sample ID: BES23-58 1'
Date Collected: 08/21/23 08:45
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 17:15	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 14:41	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 09:03	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-59 1'
Lab Sample ID: 890-5137-11
Date Collected: 08/21/23 08:50
Matrix: Solid
Date Received: 08/21/23 16:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 19:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 15:47	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 09:10	CH	EET MID

Client Sample ID: BES23-60 1'
Lab Sample ID: 890-5137-12
Date Collected: 08/21/23 08:55
Matrix: Solid
Date Received: 08/21/23 16:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 19:28	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 16:09	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 09:31	CH	EET MID

Client Sample ID: BES23-61 1'
Lab Sample ID: 890-5137-13
Date Collected: 08/21/23 09:00
Matrix: Solid
Date Received: 08/21/23 16:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 19:53	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 16:31	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 09:38	CH	EET MID

Client Sample ID: BES23-62 1'
Lab Sample ID: 890-5137-14
Date Collected: 08/21/23 09:05
Matrix: Solid
Date Received: 08/21/23 16:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	60968	08/24/23 09:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60962	08/24/23 20:19	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61099	08/25/23 09:31	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Client Sample ID: BES23-62 1'

Date Collected: 08/21/23 09:05
Date Received: 08/21/23 16:26

Lab Sample ID: 890-5137-14

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61126	08/25/23 11:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	60930	08/23/23 16:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60956	08/24/23 16:53	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60878	08/23/23 10:50	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	60936	08/24/23 10:00	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5137-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-5137-1	BES23-49 1'	Solid	08/21/23 08:00	08/21/23 16:26
890-5137-2	BES23-50 1'	Solid	08/21/23 08:05	08/21/23 16:26
890-5137-3	BES23-51 1'	Solid	08/21/23 08:10	08/21/23 16:26
890-5137-4	BES23-52 1'	Solid	08/21/23 08:15	08/21/23 16:26
890-5137-5	BES23-53 1	Solid	08/21/23 08:20	08/21/23 16:26
890-5137-6	BES23-54 1'	Solid	08/21/23 08:25	08/21/23 16:26
890-5137-7	BES23-55 1'	Solid	08/21/23 08:30	08/21/23 16:26
890-5137-8	BES23-56 1'	Solid	08/21/23 08:35	08/21/23 16:26
890-5137-9	BES23-57 1'	Solid	08/21/23 08:40	08/21/23 16:26
890-5137-10	BES23-58 1'	Solid	08/21/23 08:45	08/21/23 16:26
890-5137-11	BES23-59 1'	Solid	08/21/23 08:50	08/21/23 16:26
890-5137-12	BES23-60 1'	Solid	08/21/23 08:55	08/21/23 16:26
890-5137-13	BES23-61 1'	Solid	08/21/23 09:00	08/21/23 16:26
890-5137-14	BES23-62 1'	Solid	08/21/23 09:05	08/21/23 16:26

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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

Work Order No: _____

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Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	cdixon@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☐ Routine ☒ Rush	
Project Location:		Due Date:	2 Day
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TWM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	22.2
Total Containers:		Corrected Temperature:	22.0

ANALYSIS REQUEST

890-5137 Chain of Custody

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	Grab/ Comp	# of Cont	Parameters: PAH	BTEX			Sample Comments
BES23-49	1'	Soil	8/21/23	8:00		5		X	X	X	X	
BES23-50	1'			8:05								
BES23-51	1'			8:10								
BES23-52	1'			8:15								
BES23-53	1'			8:20								
BES23-54	1'			8:25								
BES23-55	1'			8:30								
BES23-56	1'			8:35								
BES23-57	1'			8:40								
BES23-58	1'			8:45				X	X	X	X	

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 Hunter Klein		8-21-23 16:20	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

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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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

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

Project Name:		Turn Around	
Project Number:		☐ Routine ☒ Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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_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	Grab/ Comp	# of Cont	Pres. Code	Parameters: ANALYSIS REQUEST	Sample Comments
BES23-59 1'	Soil	8/21/23	8:50		C			X X X	
BES23-60 1'			8:55					X X X	
BES23-61 1'			9:00					X X X	
BES23-62 1			9:05					X X X	

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		8-21-23 16.20	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5137-1
SDG Number: 23E-03626

Login Number: 5137
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5137-1
SDG Number: 23E-03626

Login Number: 5137
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/23/23 10:39 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	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/31/2023 1:47:35 PM Revision 1

JOB DESCRIPTION

Carleton SWD
SDG NUMBER 23E- 03626

JOB NUMBER

890-5151-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

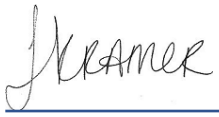
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
8/31/2023 1:47:35 PM
Revision 1

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-5151-1
SDG: 23E- 03626

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Definitions/Glossary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Job ID: 890-5151-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5151-1

REVISION

The report being provided is a revision of the original report sent on 8/28/2023. The report (revision 1) is being revised due to Per client email, requesting re run on sample BES23-72 for chloride.

Receipt
The samples were received on 8/23/2023 4:23 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 6.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BES23-63 1' (890-5151-1), BES23-64 4' (890-5151-2), BES23-65 4' (890-5151-3), BES23-66 4' (890-5151-4), BES23-67 4' (890-5151-5), BES23-68 4' (890-5151-6), BES23-69 4' (890-5151-7), BES23-70 1' (890-5151-8), BES23-71 1' (890-5151-9), BES23-72 1' (890-5151-10), BES23-73 1' (890-5151-11), BES23-74 1' (890-5151-12), BES23-75 1' (890-5151-13) and BES23-76 1' (890-5151-14).

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): BES23-63 1' (890-5151-1), BES23-64 4' (890-5151-2), BES23-65 4' (890-5151-3), BES23-66 4' (890-5151-4), BES23-67 4' (890-5151-5), BES23-68 4' (890-5151-6), BES23-69 4' (890-5151-7), BES23-70 1' (890-5151-8), BES23-71 1' (890-5151-9), BES23-72 1' (890-5151-10), BES23-73 1' (890-5151-11), BES23-74 1' (890-5151-12), BES23-75 1' (890-5151-13) and BES23-76 1' (890-5151-14). The container labels list <SAMPLE_ID>, while the COC lists <SAMPLEID>. The client was contacted, and the lab was instructed to <EXPLANATION_REQUIRED>.
890-5151
COC:
#12 BES23-74 1' 8/23/23 8:55
JAR:
BES23-74 1' 8/23/23 8:55
The jar has a time scratched out on the top of 8:55 making these same samples

#13 COC:
BES23-75 1' 8/23/23 9:00
Jar:
BES23-74 1' 8/23/23 9:00
The jar has a time scratched out on the top of the jar of 9:00 making these the same samples

#14 COC:
BES23-76 1' 8/23/23 9:05

JAR:
BES23-75 1' 8/23/23 9:05
The jar has a time scratched out on the top of the jar of 9:05 making these the same samples

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCSD 880-61216/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-5151-A-1-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BES23-64 4' (890-5151-2), BES23-67 4'

Case Narrative

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Job ID: 890-5151-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

(890-5151-5), BES23-68 4' (890-5151-6), BES23-69 4' (890-5151-7), BES23-70 1' (890-5151-8), BES23-71 1' (890-5151-9) and BES23-72 1' (890-5151-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BES23-73 1' (890-5151-11), BES23-74 1' (890-5151-12) and BES23-76 1' (890-5151-14). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61149 and analytical batch 880-61173 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-63 1' (890-5151-1), BES23-64 4' (890-5151-2), BES23-65 4' (890-5151-3), BES23-66 4' (890-5151-4), BES23-67 4' (890-5151-5), BES23-68 4' (890-5151-6), BES23-69 4' (890-5151-7), BES23-70 1' (890-5151-8), (890-5149-A-2-D), (890-5149-A-2-E MS) and (890-5149-A-2-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-71 1' (890-5151-9), BES23-72 1' (890-5151-10), BES23-73 1' (890-5151-11), BES23-74 1' (890-5151-12), BES23-75 1' (890-5151-13) and BES23-76 1' (890-5151-14). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-61173/31), (CCV 880-61173/47) and (CCV 880-61173/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61149 and analytical batch 880-61173 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-61135 and 880-61135 and analytical batch 880-61159 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control 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.

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-63 1'
Date Collected: 08/23/23 08:00
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 10:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 10:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 10:08	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/26/23 18:08	08/27/23 10:08	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/26/23 18:08	08/27/23 10:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 10:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*08/26/23 18:08*	*08/27/23 10:08*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*08/26/23 18:08*	*08/27/23 10:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/25/23 13:43	08/26/23 23:40	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/25/23 13:43	08/26/23 23:40	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/25/23 13:43	08/26/23 23:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*162*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/26/23 23:40*	*1*
o-Terphenyl	*119*		*70 - 130*	*08/25/23 13:43*	*08/26/23 23:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**504**	**F1**	5.04		mg/Kg			08/25/23 20:31	1

Client Sample ID: BES23-64 4'
Date Collected: 08/23/23 08:05
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/26/23 18:08	08/27/23 10:34	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/26/23 18:08	08/27/23 10:34	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/26/23 18:08	08/27/23 10:34	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/26/23 18:08	08/27/23 10:34	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/26/23 18:08	08/27/23 10:34	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/26/23 18:08	08/27/23 10:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*	*08/26/23 18:08*	*08/27/23 10:34*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*08/26/23 18:08*	*08/27/23 10:34*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-64 4'
Date Collected: 08/23/23 08:05
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-2
Matrix: Solid

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/25/23 13:43	08/27/23 00:02	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/25/23 13:43	08/27/23 00:02	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/25/23 13:43	08/27/23 00:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*147*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 00:02*	*1*
o-Terphenyl	*119*		*70 - 130*	*08/25/23 13:43*	*08/27/23 00:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**488**		5.00		mg/Kg			08/25/23 20:51	1

Client Sample ID: BES23-65 4'
Date Collected: 08/23/23 08:10
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/26/23 18:08	08/27/23 11:00	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/26/23 18:08	08/27/23 11:00	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/26/23 18:08	08/27/23 11:00	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/26/23 18:08	08/27/23 11:00	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/26/23 18:08	08/27/23 11:00	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/26/23 18:08	08/27/23 11:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*	*08/26/23 18:08*	*08/27/23 11:00*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*08/26/23 18:08*	*08/27/23 11:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/25/23 13:43	08/27/23 00:23	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/25/23 13:43	08/27/23 00:23	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-65 4'
Date Collected: 08/23/23 08:10
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-3
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/25/23 13:43	08/27/23 00:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*157*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 00:23*	*1*
o-Terphenyl	*117*		*70 - 130*	*08/25/23 13:43*	*08/27/23 00:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**338**		5.00		mg/Kg			08/25/23 20:58	1

Client Sample ID: BES23-66 4'
Date Collected: 08/23/23 08:15
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 11:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 11:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 11:26	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/26/23 18:08	08/27/23 11:26	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/26/23 18:08	08/27/23 11:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*08/26/23 18:08*	*08/27/23 11:26*	*1*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*08/26/23 18:08*	*08/27/23 11:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/25/23 13:43	08/27/23 00:44	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/25/23 13:43	08/27/23 00:44	1
Oll Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/25/23 13:43	08/27/23 00:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*150*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 00:44*	*1*
o-Terphenyl	*119*		*70 - 130*	*08/25/23 13:43*	*08/27/23 00:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**226**		5.03		mg/Kg			08/25/23 21:04	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-67 4'
Date Collected: 08/23/23 08:20
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 11:52	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 11:52	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 11:52	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/26/23 18:08	08/27/23 11:52	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/26/23 18:08	08/27/23 11:52	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 11:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*143*	*S1+*	*70 - 130*	*08/26/23 18:08*	*08/27/23 11:52*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/26/23 18:08*	*08/27/23 11:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/25/23 13:43	08/27/23 01:06	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/25/23 13:43	08/27/23 01:06	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/25/23 13:43	08/27/23 01:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*150*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 01:06*	*1*
o-Terphenyl	*122*		*70 - 130*	*08/25/23 13:43*	*08/27/23 01:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**119**		5.01		mg/Kg			08/25/23 21:11	1

Client Sample ID: BES23-68 4'
Date Collected: 08/23/23 08:25
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 12:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 12:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 12:18	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/26/23 18:08	08/27/23 12:18	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/26/23 18:08	08/27/23 12:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 12:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*154*	*S1+*	*70 - 130*	*08/26/23 18:08*	*08/27/23 12:18*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*08/26/23 18:08*	*08/27/23 12:18*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-68 4'
Date Collected: 08/23/23 08:25
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-6
Matrix: Solid

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/25/23 13:43	08/27/23 01:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/25/23 13:43	08/27/23 01:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/25/23 13:43	08/27/23 01:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*176*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 01:27*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 01:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**143**		4.99		mg/Kg			08/25/23 21:31	1

Client Sample ID: BES23-69 4'
Date Collected: 08/23/23 08:30
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/26/23 18:08	08/27/23 12:44	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/26/23 18:08	08/27/23 12:44	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/26/23 18:08	08/27/23 12:44	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/26/23 18:08	08/27/23 12:44	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/26/23 18:08	08/27/23 12:44	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/26/23 18:08	08/27/23 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*154*	*S1+*	*70 - 130*	*08/26/23 18:08*	*08/27/23 12:44*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/26/23 18:08*	*08/27/23 12:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/25/23 13:43	08/27/23 01:48	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/25/23 13:43	08/27/23 01:48	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-69 4'
Date Collected: 08/23/23 08:30
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-7
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/25/23 13:43	08/27/23 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*170*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 01:48*	*1*
o-Terphenyl	*142*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 01:48*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**218**		4.96		mg/Kg			08/25/23 21:38	1

Client Sample ID: BES23-70 1'
Date Collected: 08/23/23 08:35
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 13:10	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 13:10	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 13:10	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/26/23 18:08	08/27/23 13:10	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/26/23 18:08	08/27/23 13:10	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*148*	*S1+*	*70 - 130*	*08/26/23 18:08*	*08/27/23 13:10*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*08/26/23 18:08*	*08/27/23 13:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/25/23 13:43	08/27/23 02:09	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/25/23 13:43	08/27/23 02:09	1
Oll Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/25/23 13:43	08/27/23 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*162*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 02:09*	*1*
o-Terphenyl	*130*		*70 - 130*	*08/25/23 13:43*	*08/27/23 02:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**377**		5.02		mg/Kg			08/25/23 21:45	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-71 1'
Date Collected: 08/23/23 08:40
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/26/23 18:08	08/27/23 13:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/26/23 18:08	08/27/23 13:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/26/23 18:08	08/27/23 13:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/26/23 18:08	08/27/23 13:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/26/23 18:08	08/27/23 13:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/26/23 18:08	08/27/23 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*143*	*S1+*	*70 - 130*	*08/26/23 18:08*	*08/27/23 13:36*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*08/26/23 18:08*	*08/27/23 13:36*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/25/23 13:43	08/27/23 02:52	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/25/23 13:43	08/27/23 02:52	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/25/23 13:43	08/27/23 02:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*161*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 02:52*	*1*
o-Terphenyl	*128*		*70 - 130*	*08/25/23 13:43*	*08/27/23 02:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**250**		5.01		mg/Kg			08/25/23 21:51	1

Client Sample ID: BES23-72 1'
Date Collected: 08/23/23 08:45
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-10
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 14:02	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 14:02	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 14:02	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/26/23 18:08	08/27/23 14:02	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/26/23 18:08	08/27/23 14:02	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/26/23 18:08	08/27/23 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*08/26/23 18:08*	*08/27/23 14:02*	*1*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*08/26/23 18:08*	*08/27/23 14:02*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-72 1'
Date Collected: 08/23/23 08:45
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-10
Matrix: Solid

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/25/23 13:43	08/27/23 03:13	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/25/23 13:43	08/27/23 03:13	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/25/23 13:43	08/27/23 03:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*162*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 03:13*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 03:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**571**		4.99		mg/Kg			08/30/23 21:37	1

Client Sample ID: BES23-73 1'
Date Collected: 08/23/23 08:50
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-11
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/26/23 18:08	08/27/23 15:50	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/26/23 18:08	08/27/23 15:50	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/26/23 18:08	08/27/23 15:50	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/26/23 18:08	08/27/23 15:50	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/26/23 18:08	08/27/23 15:50	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/26/23 18:08	08/27/23 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*	*08/26/23 18:08*	*08/27/23 15:50*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*08/26/23 18:08*	*08/27/23 15:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/25/23 13:43	08/27/23 03:34	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/25/23 13:43	08/27/23 03:34	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-73 1'
Date Collected: 08/23/23 08:50
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-11
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/25/23 13:43	08/27/23 03:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*161*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 03:34*	*1*
o-Terphenyl	*126*		*70 - 130*	*08/25/23 13:43*	*08/27/23 03:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**369**	**F1**	5.00		mg/Kg			08/25/23 22:04	1

Client Sample ID: BES23-74 1'
Date Collected: 08/23/23 08:55
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-12
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 16:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 16:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 16:16	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/26/23 18:08	08/27/23 16:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/26/23 18:08	08/27/23 16:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*142*	*S1+*	*70 - 130*	*08/26/23 18:08*	*08/27/23 16:16*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*08/26/23 18:08*	*08/27/23 16:16*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/25/23 13:43	08/27/23 03:55	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/25/23 13:43	08/27/23 03:55	1
Oll Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/25/23 13:43	08/27/23 03:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*162*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 03:55*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 03:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**291**		5.00		mg/Kg			08/25/23 22:24	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-75 1'
Date Collected: 08/23/23 09:00
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-13
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 16:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 16:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 16:43	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/26/23 18:08	08/27/23 16:43	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/26/23 18:08	08/27/23 16:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*08/26/23 18:08*	*08/27/23 16:43*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*08/26/23 18:08*	*08/27/23 16:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/25/23 13:43	08/27/23 04:16	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/25/23 13:43	08/27/23 04:16	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/25/23 13:43	08/27/23 04:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*171*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 04:16*	*1*
o-Terphenyl	*144*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 04:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**245**		4.98		mg/Kg			08/25/23 22:31	1

Client Sample ID: BES23-76 1'
Date Collected: 08/23/23 09:05
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-14
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 17:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 17:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 17:09	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/26/23 18:08	08/27/23 17:09	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/26/23 18:08	08/27/23 17:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*144*	*S1+*	*70 - 130*	*08/26/23 18:08*	*08/27/23 17:09*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/26/23 18:08*	*08/27/23 17:09*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-76 1'

Date Collected: 08/23/23 09:05
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-14

Matrix: Solid

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/28/23 12:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/28/23 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/25/23 13:43	08/27/23 04:37	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/25/23 13:43	08/27/23 04:37	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/25/23 13:43	08/27/23 04:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*171*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 04:37*	*1*
o-Terphenyl	*142*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/27/23 04:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**250**		4.99		mg/Kg			08/25/23 22:51	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-5151-1	BES23-63 1'	127	80
890-5151-1 MS	BES23-63 1'	116	79
890-5151-1 MSD	BES23-63 1'	133 S1+	94
890-5151-2	BES23-64 4'	134 S1+	86
890-5151-3	BES23-65 4'	125	76
890-5151-4	BES23-66 4'	120	72
890-5151-5	BES23-67 4'	143 S1+	95
890-5151-6	BES23-68 4'	154 S1+	104
890-5151-7	BES23-69 4'	154 S1+	90
890-5151-8	BES23-70 1'	148 S1+	88
890-5151-9	BES23-71 1'	143 S1+	93
890-5151-10	BES23-72 1'	129	69 S1-
890-5151-11	BES23-73 1'	136 S1+	96
890-5151-12	BES23-74 1'	142 S1+	83
890-5151-13	BES23-75 1'	130	80
890-5151-14	BES23-76 1'	144 S1+	90
LCS 880-61216/1-A	Lab Control Sample	126	86
LCSD 880-61216/2-A	Lab Control Sample Dup	135 S1+	86
MB 880-61206/8	Method Blank	73	79
MB 880-61216/5-A	Method Blank	78	78

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5149-A-2-E MS	Matrix Spike	159 S1+	124
890-5149-A-2-F MSD	Matrix Spike Duplicate	166 S1+	119
890-5151-1	BES23-63 1'	162 S1+	119
890-5151-2	BES23-64 4'	147 S1+	119
890-5151-3	BES23-65 4'	157 S1+	117
890-5151-4	BES23-66 4'	150 S1+	119
890-5151-5	BES23-67 4'	150 S1+	122
890-5151-6	BES23-68 4'	176 S1+	134 S1+
890-5151-7	BES23-69 4'	170 S1+	142 S1+
890-5151-8	BES23-70 1'	162 S1+	130
890-5151-9	BES23-71 1'	161 S1+	128
890-5151-10	BES23-72 1'	162 S1+	132 S1+
890-5151-11	BES23-73 1'	161 S1+	126
890-5151-12	BES23-74 1'	162 S1+	133 S1+
890-5151-13	BES23-75 1'	171 S1+	144 S1+
890-5151-14	BES23-76 1'	171 S1+	142 S1+
LCS 880-61149/2-A	Lab Control Sample	112	101
LCSD 880-61149/3-A	Lab Control Sample Dup	125	104
MB 880-61149/1-A	Method Blank	222 S1+	181 S1+

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61206/8
Matrix: Solid
Analysis Batch: 61206

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg			08/26/23 20:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg			08/26/23 20:26	1
Toluene	<0.00200	U	0.00200		mg/Kg			08/26/23 20:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg			08/26/23 20:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg			08/26/23 20:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg			08/26/23 20:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*		*08/26/23 20:26*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*		*08/26/23 20:26*	*1*

Lab Sample ID: MB 880-61216/5-A
Matrix: Solid
Analysis Batch: 61206

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 09:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 09:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 09:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/26/23 18:08	08/27/23 09:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/26/23 18:08	08/27/23 09:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/26/23 18:08	08/27/23 09:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*08/26/23 18:08*	*08/27/23 09:42*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*08/26/23 18:08*	*08/27/23 09:42*	*1*

Lab Sample ID: LCS 880-61216/1-A
Matrix: Solid
Analysis Batch: 61206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08973		mg/Kg		90	70 - 130
Ethylbenzene	0.100	0.09490		mg/Kg		95	70 - 130
Toluene	0.100	0.09604		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	0.200	0.1835		mg/Kg		92	70 - 130
o-Xylene	0.100	0.09263		mg/Kg		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: LCSD 880-61216/2-A
Matrix: Solid
Analysis Batch: 61206

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61216

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09799		mg/Kg		98	70 - 130	9	35

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

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

Lab Sample ID: LCSD 880-61216/2-A
Matrix: Solid
Analysis Batch: 61206

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61216

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene			0.100	0.1032		mg/Kg		103	70 - 130	8	35
Toluene			0.100	0.1084		mg/Kg		108	70 - 130	12	35
m-Xylene & p-Xylene			0.200	0.1981		mg/Kg		99	70 - 130	8	35
o-Xylene			0.100	0.1051		mg/Kg		105	70 - 130	13	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-5151-1 MS
Matrix: Solid
Analysis Batch: 61206

Client Sample ID: BES23-63 1'
Prep Type: Total/NA
Prep Batch: 61216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.07608		mg/Kg		76	70 - 130		
Ethylbenzene	<0.00200	U	0.0996	0.07633		mg/Kg		77	70 - 130		
Toluene	<0.00200	U	0.0996	0.08092		mg/Kg		81	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1482		mg/Kg		74	70 - 130		
o-Xylene	<0.00200	U	0.0996	0.07554		mg/Kg		76	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*

Lab Sample ID: 890-5151-1 MSD
Matrix: Solid
Analysis Batch: 61206

Client Sample ID: BES23-63 1'
Prep Type: Total/NA
Prep Batch: 61216

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.07435		mg/Kg		74	70 - 130	2	35
Ethylbenzene	<0.00200	U	0.100	0.08074		mg/Kg		80	70 - 130	6	35
Toluene	<0.00200	U	0.100	0.08876		mg/Kg		88	70 - 130	9	35
m-Xylene & p-Xylene	<0.00399	U	0.201	0.1610		mg/Kg		80	70 - 130	8	35
o-Xylene	<0.00200	U	0.100	0.07980		mg/Kg		79	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-61149/1-A
Matrix: Solid
Analysis Batch: 61173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61149

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/25/23 13:43	08/26/23 21:08	1

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

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

Lab Sample ID: MB 880-61149/1-A
Matrix: Solid
Analysis Batch: 61173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61149

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/25/23 13:43	08/26/23 21:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/25/23 13:43	08/26/23 21:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*222*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/26/23 21:08*	*1*
o-Terphenyl	*181*	*S1+*	*70 - 130*	*08/25/23 13:43*	*08/26/23 21:08*	*1*

Lab Sample ID: LCS 880-61149/2-A
Matrix: Solid
Analysis Batch: 61173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61149

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1049		mg/Kg		105	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	830.8		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*101*		*70 - 130*

Lab Sample ID: LCSD 880-61149/3-A
Matrix: Solid
Analysis Batch: 61173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61149

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1124		mg/Kg		112	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	903.0		mg/Kg		90	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*125*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 890-5149-A-2-E MS
Matrix: Solid
Analysis Batch: 61173

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61149

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	1000	1058		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.4	U F1	1000	1325	F1	mg/Kg		133	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*159*	*S1+*	*70 - 130*
o-Terphenyl	*124*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

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

Lab Sample ID: 890-5149-A-2-F MSD
Matrix: Solid
Analysis Batch: 61173

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61149

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	1000	1081		mg/Kg		104	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.4	U F1	1000	1340	F1	mg/Kg		134	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*166*	*S1+*	*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-61135/1-A
Matrix: Solid
Analysis Batch: 61159

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/25/23 20:11	1

Lab Sample ID: LCS 880-61135/2-A
Matrix: Solid
Analysis Batch: 61159

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	253.7		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-61135/3-A
Matrix: Solid
Analysis Batch: 61159

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	253.3		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-5151-1 MS
Matrix: Solid
Analysis Batch: 61159

Client Sample ID: BES23-63 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	504	F1	252	727.1	F1	mg/Kg		89	90 - 110

Lab Sample ID: 890-5151-1 MSD
Matrix: Solid
Analysis Batch: 61159

Client Sample ID: BES23-63 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	504	F1	252	728.3	F1	mg/Kg		89	90 - 110	0	20

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-5151-11 MS
Matrix: Solid
Analysis Batch: 61159

Client Sample ID: BES23-73 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	369	F1	250	587.5	F1	mg/Kg		87	90 - 110

Lab Sample ID: 890-5151-11 MSD
Matrix: Solid
Analysis Batch: 61159

Client Sample ID: BES23-73 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	369	F1	250	586.7	F1	mg/Kg		87	90 - 110	0	20

Lab Sample ID: MB 880-61435/1-A
Matrix: Solid
Analysis Batch: 61539

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/30/23 18:05	1

Lab Sample ID: LCS 880-61435/2-A
Matrix: Solid
Analysis Batch: 61539

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	253.5		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-61435/3-A
Matrix: Solid
Analysis Batch: 61539

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	253.1		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-5157-A-4-C MS
Matrix: Solid
Analysis Batch: 61539

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250		251	494.4		mg/Kg		97	90 - 110

Lab Sample ID: 890-5157-A-4-D MSD
Matrix: Solid
Analysis Batch: 61539

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250		251	491.4		mg/Kg		96	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

GC VOA

Analysis Batch: 61206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-1	BES23-63 1'	Total/NA	Solid	8021B	61216
890-5151-2	BES23-64 4'	Total/NA	Solid	8021B	61216
890-5151-3	BES23-65 4'	Total/NA	Solid	8021B	61216
890-5151-4	BES23-66 4'	Total/NA	Solid	8021B	61216
890-5151-5	BES23-67 4'	Total/NA	Solid	8021B	61216
890-5151-6	BES23-68 4'	Total/NA	Solid	8021B	61216
890-5151-7	BES23-69 4'	Total/NA	Solid	8021B	61216
890-5151-8	BES23-70 1'	Total/NA	Solid	8021B	61216
890-5151-9	BES23-71 1'	Total/NA	Solid	8021B	61216
890-5151-10	BES23-72 1'	Total/NA	Solid	8021B	61216
890-5151-11	BES23-73 1'	Total/NA	Solid	8021B	61216
890-5151-12	BES23-74 1'	Total/NA	Solid	8021B	61216
890-5151-13	BES23-75 1'	Total/NA	Solid	8021B	61216
890-5151-14	BES23-76 1'	Total/NA	Solid	8021B	61216
MB 880-61206/8	Method Blank	Total/NA	Solid	8021B	
MB 880-61216/5-A	Method Blank	Total/NA	Solid	8021B	61216
LCS 880-61216/1-A	Lab Control Sample	Total/NA	Solid	8021B	61216
LCSD 880-61216/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61216
890-5151-1 MS	BES23-63 1'	Total/NA	Solid	8021B	61216
890-5151-1 MSD	BES23-63 1'	Total/NA	Solid	8021B	61216

Prep Batch: 61216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-1	BES23-63 1'	Total/NA	Solid	5035	
890-5151-2	BES23-64 4'	Total/NA	Solid	5035	
890-5151-3	BES23-65 4'	Total/NA	Solid	5035	
890-5151-4	BES23-66 4'	Total/NA	Solid	5035	
890-5151-5	BES23-67 4'	Total/NA	Solid	5035	
890-5151-6	BES23-68 4'	Total/NA	Solid	5035	
890-5151-7	BES23-69 4'	Total/NA	Solid	5035	
890-5151-8	BES23-70 1'	Total/NA	Solid	5035	
890-5151-9	BES23-71 1'	Total/NA	Solid	5035	
890-5151-10	BES23-72 1'	Total/NA	Solid	5035	
890-5151-11	BES23-73 1'	Total/NA	Solid	5035	
890-5151-12	BES23-74 1'	Total/NA	Solid	5035	
890-5151-13	BES23-75 1'	Total/NA	Solid	5035	
890-5151-14	BES23-76 1'	Total/NA	Solid	5035	
MB 880-61216/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61216/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61216/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5151-1 MS	BES23-63 1'	Total/NA	Solid	5035	
890-5151-1 MSD	BES23-63 1'	Total/NA	Solid	5035	

Analysis Batch: 61307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-1	BES23-63 1'	Total/NA	Solid	Total BTEX	
890-5151-2	BES23-64 4'	Total/NA	Solid	Total BTEX	
890-5151-3	BES23-65 4'	Total/NA	Solid	Total BTEX	
890-5151-4	BES23-66 4'	Total/NA	Solid	Total BTEX	
890-5151-5	BES23-67 4'	Total/NA	Solid	Total BTEX	
890-5151-6	BES23-68 4'	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

GC VOA (Continued)

Analysis Batch: 61307 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-7	BES23-69 4'	Total/NA	Solid	Total BTEX	
890-5151-8	BES23-70 1'	Total/NA	Solid	Total BTEX	
890-5151-9	BES23-71 1'	Total/NA	Solid	Total BTEX	
890-5151-10	BES23-72 1'	Total/NA	Solid	Total BTEX	
890-5151-11	BES23-73 1'	Total/NA	Solid	Total BTEX	
890-5151-12	BES23-74 1'	Total/NA	Solid	Total BTEX	
890-5151-13	BES23-75 1'	Total/NA	Solid	Total BTEX	
890-5151-14	BES23-76 1'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 61149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-1	BES23-63 1'	Total/NA	Solid	8015NM Prep	
890-5151-2	BES23-64 4'	Total/NA	Solid	8015NM Prep	
890-5151-3	BES23-65 4'	Total/NA	Solid	8015NM Prep	
890-5151-4	BES23-66 4'	Total/NA	Solid	8015NM Prep	
890-5151-5	BES23-67 4'	Total/NA	Solid	8015NM Prep	
890-5151-6	BES23-68 4'	Total/NA	Solid	8015NM Prep	
890-5151-7	BES23-69 4'	Total/NA	Solid	8015NM Prep	
890-5151-8	BES23-70 1'	Total/NA	Solid	8015NM Prep	
890-5151-9	BES23-71 1'	Total/NA	Solid	8015NM Prep	
890-5151-10	BES23-72 1'	Total/NA	Solid	8015NM Prep	
890-5151-11	BES23-73 1'	Total/NA	Solid	8015NM Prep	
890-5151-12	BES23-74 1'	Total/NA	Solid	8015NM Prep	
890-5151-13	BES23-75 1'	Total/NA	Solid	8015NM Prep	
890-5151-14	BES23-76 1'	Total/NA	Solid	8015NM Prep	
MB 880-61149/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61149/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61149/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5149-A-2-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5149-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-1	BES23-63 1'	Total/NA	Solid	8015B NM	61149
890-5151-2	BES23-64 4'	Total/NA	Solid	8015B NM	61149
890-5151-3	BES23-65 4'	Total/NA	Solid	8015B NM	61149
890-5151-4	BES23-66 4'	Total/NA	Solid	8015B NM	61149
890-5151-5	BES23-67 4'	Total/NA	Solid	8015B NM	61149
890-5151-6	BES23-68 4'	Total/NA	Solid	8015B NM	61149
890-5151-7	BES23-69 4'	Total/NA	Solid	8015B NM	61149
890-5151-8	BES23-70 1'	Total/NA	Solid	8015B NM	61149
890-5151-9	BES23-71 1'	Total/NA	Solid	8015B NM	61149
890-5151-10	BES23-72 1'	Total/NA	Solid	8015B NM	61149
890-5151-11	BES23-73 1'	Total/NA	Solid	8015B NM	61149
890-5151-12	BES23-74 1'	Total/NA	Solid	8015B NM	61149
890-5151-13	BES23-75 1'	Total/NA	Solid	8015B NM	61149
890-5151-14	BES23-76 1'	Total/NA	Solid	8015B NM	61149
MB 880-61149/1-A	Method Blank	Total/NA	Solid	8015B NM	61149
LCS 880-61149/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61149

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

GC Semi VOA (Continued)

Analysis Batch: 61173 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-61149/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61149
890-5149-A-2-E MS	Matrix Spike	Total/NA	Solid	8015B NM	61149
890-5149-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	61149

Analysis Batch: 61399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-1	BES23-63 1'	Total/NA	Solid	8015 NM	
890-5151-2	BES23-64 4'	Total/NA	Solid	8015 NM	
890-5151-3	BES23-65 4'	Total/NA	Solid	8015 NM	
890-5151-4	BES23-66 4'	Total/NA	Solid	8015 NM	
890-5151-5	BES23-67 4'	Total/NA	Solid	8015 NM	
890-5151-6	BES23-68 4'	Total/NA	Solid	8015 NM	
890-5151-7	BES23-69 4'	Total/NA	Solid	8015 NM	
890-5151-8	BES23-70 1'	Total/NA	Solid	8015 NM	
890-5151-9	BES23-71 1'	Total/NA	Solid	8015 NM	
890-5151-10	BES23-72 1'	Total/NA	Solid	8015 NM	
890-5151-11	BES23-73 1'	Total/NA	Solid	8015 NM	
890-5151-12	BES23-74 1'	Total/NA	Solid	8015 NM	
890-5151-13	BES23-75 1'	Total/NA	Solid	8015 NM	
890-5151-14	BES23-76 1'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 61135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-1	BES23-63 1'	Soluble	Solid	DI Leach	
890-5151-2	BES23-64 4'	Soluble	Solid	DI Leach	
890-5151-3	BES23-65 4'	Soluble	Solid	DI Leach	
890-5151-4	BES23-66 4'	Soluble	Solid	DI Leach	
890-5151-5	BES23-67 4'	Soluble	Solid	DI Leach	
890-5151-6	BES23-68 4'	Soluble	Solid	DI Leach	
890-5151-7	BES23-69 4'	Soluble	Solid	DI Leach	
890-5151-8	BES23-70 1'	Soluble	Solid	DI Leach	
890-5151-9	BES23-71 1'	Soluble	Solid	DI Leach	
890-5151-11	BES23-73 1'	Soluble	Solid	DI Leach	
890-5151-12	BES23-74 1'	Soluble	Solid	DI Leach	
890-5151-13	BES23-75 1'	Soluble	Solid	DI Leach	
890-5151-14	BES23-76 1'	Soluble	Solid	DI Leach	
MB 880-61135/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61135/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61135/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5151-1 MS	BES23-63 1'	Soluble	Solid	DI Leach	
890-5151-1 MSD	BES23-63 1'	Soluble	Solid	DI Leach	
890-5151-11 MS	BES23-73 1'	Soluble	Solid	DI Leach	
890-5151-11 MSD	BES23-73 1'	Soluble	Solid	DI Leach	

Analysis Batch: 61159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-1	BES23-63 1'	Soluble	Solid	300.0	61135
890-5151-2	BES23-64 4'	Soluble	Solid	300.0	61135
890-5151-3	BES23-65 4'	Soluble	Solid	300.0	61135

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

HPLC/IC (Continued)

Analysis Batch: 61159 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-4	BES23-66 4'	Soluble	Solid	300.0	61135
890-5151-5	BES23-67 4'	Soluble	Solid	300.0	61135
890-5151-6	BES23-68 4'	Soluble	Solid	300.0	61135
890-5151-7	BES23-69 4'	Soluble	Solid	300.0	61135
890-5151-8	BES23-70 1'	Soluble	Solid	300.0	61135
890-5151-9	BES23-71 1'	Soluble	Solid	300.0	61135
890-5151-11	BES23-73 1'	Soluble	Solid	300.0	61135
890-5151-12	BES23-74 1'	Soluble	Solid	300.0	61135
890-5151-13	BES23-75 1'	Soluble	Solid	300.0	61135
890-5151-14	BES23-76 1'	Soluble	Solid	300.0	61135
MB 880-61135/1-A	Method Blank	Soluble	Solid	300.0	61135
LCS 880-61135/2-A	Lab Control Sample	Soluble	Solid	300.0	61135
LCSD 880-61135/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61135
890-5151-1 MS	BES23-63 1'	Soluble	Solid	300.0	61135
890-5151-1 MSD	BES23-63 1'	Soluble	Solid	300.0	61135
890-5151-11 MS	BES23-73 1'	Soluble	Solid	300.0	61135
890-5151-11 MSD	BES23-73 1'	Soluble	Solid	300.0	61135

Leach Batch: 61435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-10	BES23-72 1'	Soluble	Solid	DI Leach	
MB 880-61435/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61435/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61435/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5157-A-4-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5157-A-4-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 61539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5151-10	BES23-72 1'	Soluble	Solid	300.0	61435
MB 880-61435/1-A	Method Blank	Soluble	Solid	300.0	61435
LCS 880-61435/2-A	Lab Control Sample	Soluble	Solid	300.0	61435
LCSD 880-61435/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61435
890-5157-A-4-C MS	Matrix Spike	Soluble	Solid	300.0	61435
890-5157-A-4-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	61435

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-63 1'
Date Collected: 08/23/23 08:00
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 10:08	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/26/23 23:40	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 20:31	CH	EET MID

Client Sample ID: BES23-64 4'
Date Collected: 08/23/23 08:05
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 10:34	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 00:02	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 20:51	CH	EET MID

Client Sample ID: BES23-65 4'
Date Collected: 08/23/23 08:10
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 11:00	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 00:23	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 20:58	CH	EET MID

Client Sample ID: BES23-66 4'
Date Collected: 08/23/23 08:15
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 11:26	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-66 4'
Date Collected: 08/23/23 08:15
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 00:44	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 21:04	CH	EET MID

Client Sample ID: BES23-67 4'
Date Collected: 08/23/23 08:20
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 11:52	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 01:06	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 21:11	CH	EET MID

Client Sample ID: BES23-68 4'
Date Collected: 08/23/23 08:25
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 12:18	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 01:27	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 21:31	CH	EET MID

Client Sample ID: BES23-69 4'
Date Collected: 08/23/23 08:30
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 12:44	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 01:48	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-69 4'
Date Collected: 08/23/23 08:30
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 21:38	CH	EET MID

Client Sample ID: BES23-70 1'
Date Collected: 08/23/23 08:35
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 13:10	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 02:09	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 21:45	CH	EET MID

Client Sample ID: BES23-71 1'
Date Collected: 08/23/23 08:40
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 13:36	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 02:52	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 21:51	CH	EET MID

Client Sample ID: BES23-72 1'
Date Collected: 08/23/23 08:45
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 14:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 03:13	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61435	08/30/23 16:15	SMC	EET MID
Soluble	Analysis	300.0		1			61539	08/30/23 21:37	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-73 1'
Date Collected: 08/23/23 08:50
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 15:50	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 03:34	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 22:04	CH	EET MID

Client Sample ID: BES23-74 1'
Date Collected: 08/23/23 08:55
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 16:16	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 03:55	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 22:24	CH	EET MID

Client Sample ID: BES23-75 1'
Date Collected: 08/23/23 09:00
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 16:43	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 04:16	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 22:31	CH	EET MID

Client Sample ID: BES23-76 1'
Date Collected: 08/23/23 09:05
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61216	08/26/23 18:08	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61206	08/27/23 17:09	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61307	08/28/23 12:51	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Client Sample ID: BES23-76 1'
Date Collected: 08/23/23 09:05
Date Received: 08/23/23 16:23

Lab Sample ID: 890-5151-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61399	08/28/23 22:16	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61149	08/25/23 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61173	08/27/23 04:37	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61135	08/25/23 12:46	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61159	08/25/23 22:51	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5151-1
SDG: 23E- 03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-5151-1	BES23-63 1'	Solid	08/23/23 08:00	08/23/23 16:23
890-5151-2	BES23-64 4'	Solid	08/23/23 08:05	08/23/23 16:23
890-5151-3	BES23-65 4'	Solid	08/23/23 08:10	08/23/23 16:23
890-5151-4	BES23-66 4'	Solid	08/23/23 08:15	08/23/23 16:23
890-5151-5	BES23-67 4'	Solid	08/23/23 08:20	08/23/23 16:23
890-5151-6	BES23-68 4'	Solid	08/23/23 08:25	08/23/23 16:23
890-5151-7	BES23-69 4'	Solid	08/23/23 08:30	08/23/23 16:23
890-5151-8	BES23-70 1'	Solid	08/23/23 08:35	08/23/23 16:23
890-5151-9	BES23-71 1'	Solid	08/23/23 08:40	08/23/23 16:23
890-5151-10	BES23-72 1'	Solid	08/23/23 08:45	08/23/23 16:23
890-5151-11	BES23-73 1'	Solid	08/23/23 08:50	08/23/23 16:23
890-5151-12	BES23-74 1'	Solid	08/23/23 08:55	08/23/23 16:23
890-5151-13	BES23-75 1'	Solid	08/23/23 09:00	08/23/23 16:23
890-5151-14	BES23-76 1'	Solid	08/23/23 09:05	08/23/23 16:23

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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

Work Order No: _____

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Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	~~Vertex~~ Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		cdixon@vertex.ca

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☐ Routine ☒ Rush	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)
Samples Received Intact:	(Yes) No	Thermometer ID:	T-NM
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	7.0
Total Containers:		Corrected Temperature:	6.8

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

890-5151 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters: TPH	BTEX	Cl	Sample Comments
BES23-63 1'	Soil	8/23/23	8:00		5		↓	↓	↓	
BES23-64 4'			8:05							
BES23-65 4'			8:10							
BES23-66 4'			8:15							
BES23-67 4'			8:20							
BES23-68 4'			8:25							
BES23-69 4'			8:30							
BES23-70 1'			8:35							
BES23-71 1'			8:40							
BES23-72 1'	↓	↓	8:45		↓		↓	↓	↓	

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 Hunter Klein		8-23-23 16:23			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

8/31/2023 (Rev. 1)

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Released to Imaging: 3/19/2024 9:29:09 AM

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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

Work Order No: _____

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Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

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

Project Name:		Turn Around	
Project Number:		☐Routine ☐Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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_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	Grab/ Comp	# of Cont	Pres. Code	TPH	BTEX	Cl	Sample Comments
BES23-73 1'	Soil	8/23/23	8:50		Comp	5		↕	↕	↕	
BES23-74 1'	↓	↓	8:55		↓			↕	↕	↕	
BES23-75 1'	↓	↓	9:00		↓			↕	↕	↕	
BES23-76 1'	↓	↓	9:05		↓			↕	↕	↕	

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 Hunter Klein	Abraham	8-23-23 16:23			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

8/31/2023 (Rev. 1)

Released to Imaging: 3/19/2024 9:29:09 AM

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5151-1
SDG Number: 23E- 03626

Login Number: 5151
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5151-1
SDG Number: 23E- 03626

Login Number: 5151
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/25/23 10:44 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 8/29/2023 10:09:11 PM

JOB DESCRIPTION

Carleton SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-5155-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

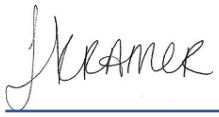
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
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Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-5155-1
SDG: 23E-03626

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Definitions/Glossary

Client: Vertex Job ID: 890-5155-1
Project/Site: Carleton SWD SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Job ID: 890-5155-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5155-1

Receipt
The samples were received on 8/24/2023 4:37 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 17.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BES23-77 1' (890-5155-1), BES23-78 1' (890-5155-2), BES23-79 1' (890-5155-3), BES23-80 1' (890-5155-4), BES23-81 1' (890-5155-5), BES23-82 1' (890-5155-6), BES23-83 1' (890-5155-7), BES23-84 1' (890-5155-8), BES23-85 1' (890-5155-9), BES23-86 1' (890-5155-10), BES23-87 1' (890-5155-11), BES23-88 1' (890-5155-12), BES23-89 1' (890-5155-13), BES23-90 1' (890-5155-14), BES23-91 1' (890-5155-15), BES23-92 1' (890-5155-16), BES23-93 1' (890-5155-17), BES23-94 1' (890-5155-18), BES23-95 1' (890-5155-19), BES23-96 1' (890-5155-20), BES23-97 1' (890-5155-21), BES23-98 1' (890-5155-22) and BES23-99 1' (890-5155-23).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-32590-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BES23-98 1' (890-5155-22) and BES23-99 1' (890-5155-23). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61257 and analytical batch 880-61247 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.

Method 8021B: Surrogate recovery for the following sample was outside control limits: BES23-78 1' (890-5155-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61364 and 880-61364 and analytical batch 880-61424 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61196 and analytical batch 880-61237 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-61237/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-61237 recovered below the lower control limit for Diesel Range Organics (Over C10-C28). An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-61237/20).

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-77 1' (890-5155-1), (890-5155-A-1-B MS) and (890-5155-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-79 1' (890-5155-3), BES23-80 1' (890-5155-4), BES23-81 1' (890-5155-5), BES23-82 1' (890-5155-6), BES23-83 1' (890-5155-7), BES23-84 1' (890-5155-8), BES23-85 1'

Case Narrative

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Job ID: 890-5155-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

(890-5155-9) and BES23-86 1' (890-5155-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-61237/47). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-89 1' (890-5155-13), BES23-91 1' (890-5155-15), BES23-92 1' (890-5155-16), BES23-94 1' (890-5155-18), BES23-95 1' (890-5155-19) and BES23-96 1' (890-5155-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-77 1'

Lab Sample ID: 890-5155-1
Matrix: Solid
Date Collected: 08/24/23 08:00
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F1	0.00199		mg/Kg		08/28/23 17:11	08/29/23 12:10	1
Ethylbenzene	<0.00199	U F1	0.00199		mg/Kg		08/28/23 17:11	08/29/23 12:10	1
Toluene	<0.00199	U F1	0.00199		mg/Kg		08/28/23 17:11	08/29/23 12:10	1
Xylenes, Total	<0.00398	U F1	0.00398		mg/Kg		08/28/23 17:11	08/29/23 12:10	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398		mg/Kg		08/28/23 17:11	08/29/23 12:10	1
o-Xylene	<0.00199	U F1	0.00199		mg/Kg		08/28/23 17:11	08/29/23 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/28/23 17:11*	*08/29/23 12:10*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*08/28/23 17:11*	*08/29/23 12:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/28/23 10:16	08/28/23 22:29	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/28/23 10:16	08/28/23 22:29	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/28/23 10:16	08/28/23 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/28/23 22:29*	*1*
o-Terphenyl	*109*		*70 - 130*	*08/28/23 10:16*	*08/28/23 22:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**293**		4.97		mg/Kg			08/29/23 02:19	1

Client Sample ID: BES23-78 1'

Lab Sample ID: 890-5155-2
Matrix: Solid
Date Collected: 08/24/23 08:05
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 12:30	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 12:30	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 12:30	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/28/23 17:11	08/29/23 12:30	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/28/23 17:11	08/29/23 12:30	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 12:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*08/28/23 17:11*	*08/29/23 12:30*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-78 1'

Date Collected: 08/24/23 08:05
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*151*	*S1+*	*70 - 130*	*08/28/23 17:11*	*08/29/23 12:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/28/23 10:16	08/28/23 23:33	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/28/23 10:16	08/28/23 23:33	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/28/23 10:16	08/28/23 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*08/28/23 10:16*	*08/28/23 23:33*	*1*
o-Terphenyl	*102*		*70 - 130*	*08/28/23 10:16*	*08/28/23 23:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**290**		5.00		mg/Kg			08/29/23 02:39	1

Client Sample ID: BES23-79 1'

Date Collected: 08/24/23 08:10
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 12:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 12:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 12:51	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/28/23 17:11	08/29/23 12:51	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/28/23 17:11	08/29/23 12:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/28/23 17:11*	*08/29/23 12:51*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/28/23 17:11*	*08/29/23 12:51*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/29/23 13:47	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-79 1'

Lab Sample ID: 890-5155-3
Matrix: Solid
Date Collected: 08/24/23 08:10
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/28/23 10:16	08/28/23 23:54	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/28/23 10:16	08/28/23 23:54	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/28/23 10:16	08/28/23 23:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/28/23 23:54*	*1*
o-Terphenyl	*112*		*70 - 130*	*08/28/23 10:16*	*08/28/23 23:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**293**		4.99		mg/Kg			08/29/23 02:45	1

Client Sample ID: BES23-80 1'

Lab Sample ID: 890-5155-4
Matrix: Solid
Date Collected: 08/24/23 08:15
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/28/23 17:11	08/29/23 13:11	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/28/23 17:11	08/29/23 13:11	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/28/23 17:11	08/29/23 13:11	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/28/23 17:11	08/29/23 13:11	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/28/23 17:11	08/29/23 13:11	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/28/23 17:11	08/29/23 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/28/23 17:11*	*08/29/23 13:11*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*08/28/23 17:11*	*08/29/23 13:11*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/28/23 10:16	08/29/23 00:15	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/28/23 10:16	08/29/23 00:15	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/28/23 10:16	08/29/23 00:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*149*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 00:15*	*1*
o-Terphenyl	*105*		*70 - 130*	*08/28/23 10:16*	*08/29/23 00:15*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-80 1'

Lab Sample ID: 890-5155-4
Matrix: Solid
Date Collected: 08/24/23 08:15
Date Received: 08/24/23 16:37
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	107		4.96		mg/Kg			08/29/23 03:05	1

Client Sample ID: BES23-81 1'

Lab Sample ID: 890-5155-5
Matrix: Solid
Date Collected: 08/24/23 08:20
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 13:32	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 13:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 13:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/28/23 17:11	08/29/23 13:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/28/23 17:11	08/29/23 13:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/28/23 17:11*	*08/29/23 13:32*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/28/23 17:11*	*08/29/23 13:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/28/23 10:16	08/29/23 00:36	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/28/23 10:16	08/29/23 00:36	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/28/23 10:16	08/29/23 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 00:36*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/28/23 10:16*	*08/29/23 00:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	201		4.95		mg/Kg			08/29/23 03:12	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-82 1'

Date Collected: 08/24/23 08:25
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/28/23 17:11	08/29/23 13:52	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/28/23 17:11	08/29/23 13:52	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/28/23 17:11	08/29/23 13:52	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/28/23 17:11	08/29/23 13:52	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/28/23 17:11	08/29/23 13:52	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/28/23 17:11	08/29/23 13:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*08/28/23 17:11*	*08/29/23 13:52*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*08/28/23 17:11*	*08/29/23 13:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/28/23 10:16	08/29/23 00:58	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/28/23 10:16	08/29/23 00:58	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/28/23 10:16	08/29/23 00:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 00:58*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/28/23 10:16*	*08/29/23 00:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**149**		5.01		mg/Kg			08/29/23 03:19	1

Client Sample ID: BES23-83 1'

Date Collected: 08/24/23 08:30
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-7

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 14:12	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 14:12	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 14:12	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/28/23 17:11	08/29/23 14:12	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/28/23 17:11	08/29/23 14:12	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 14:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/28/23 17:11*	*08/29/23 14:12*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-83 1'

Date Collected: 08/24/23 08:30
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-7

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*08/28/23 17:11*	*08/29/23 14:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/28/23 10:16	08/29/23 01:19	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/28/23 10:16	08/29/23 01:19	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/28/23 10:16	08/29/23 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 01:19*	*1*
o-Terphenyl	*97*		*70 - 130*	*08/28/23 10:16*	*08/29/23 01:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**276**		4.99		mg/Kg			08/29/23 03:25	1

Client Sample ID: BES23-84 1'

Date Collected: 08/24/23 08:35
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 14:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 14:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 14:33	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/28/23 17:11	08/29/23 14:33	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/28/23 17:11	08/29/23 14:33	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/28/23 17:11*	*08/29/23 14:33*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/28/23 17:11*	*08/29/23 14:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/29/23 13:47	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-84 1'

Lab Sample ID: 890-5155-8
Matrix: Solid
Date Collected: 08/24/23 08:35
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/28/23 10:16	08/29/23 01:40	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/28/23 10:16	08/29/23 01:40	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/28/23 10:16	08/29/23 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 01:40*	*1*
o-Terphenyl	*102*		*70 - 130*	*08/28/23 10:16*	*08/29/23 01:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**		4.95		mg/Kg			08/29/23 03:32	1

Client Sample ID: BES23-85 1'

Lab Sample ID: 890-5155-9
Matrix: Solid
Date Collected: 08/24/23 08:40
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 14:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 14:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 14:53	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/28/23 17:11	08/29/23 14:53	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/28/23 17:11	08/29/23 14:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*08/28/23 17:11*	*08/29/23 14:53*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*08/28/23 17:11*	*08/29/23 14:53*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/28/23 10:16	08/29/23 02:01	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/28/23 10:16	08/29/23 02:01	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/28/23 10:16	08/29/23 02:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 02:01*	*1*
o-Terphenyl	*102*		*70 - 130*	*08/28/23 10:16*	*08/29/23 02:01*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-85 1'

Lab Sample ID: 890-5155-9
Matrix: Solid
Date Collected: 08/24/23 08:40
Date Received: 08/24/23 16:37
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	250		5.00		mg/Kg			08/29/23 03:38	1

Client Sample ID: BES23-86 1'

Lab Sample ID: 890-5155-10
Matrix: Solid
Date Collected: 08/24/23 08:45
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 15:14	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 15:14	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 15:14	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/28/23 17:11	08/29/23 15:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/28/23 17:11	08/29/23 15:14	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 15:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/28/23 17:11*	*08/29/23 15:14*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*08/28/23 17:11*	*08/29/23 15:14*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/28/23 10:16	08/29/23 02:22	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/28/23 10:16	08/29/23 02:22	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/28/23 10:16	08/29/23 02:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 02:22*	*1*
o-Terphenyl	*102*		*70 - 130*	*08/28/23 10:16*	*08/29/23 02:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	149		4.98		mg/Kg			08/29/23 03:45	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-87 1'

Lab Sample ID: 890-5155-11
Matrix: Solid
Date Collected: 08/24/23 08:50
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 17:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 17:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 17:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/28/23 17:11	08/29/23 17:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/28/23 17:11	08/29/23 17:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*08/28/23 17:11*	*08/29/23 17:05*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*08/28/23 17:11*	*08/29/23 17:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/28/23 10:16	08/29/23 03:05	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/28/23 10:16	08/29/23 03:05	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/28/23 10:16	08/29/23 03:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*08/28/23 10:16*	*08/29/23 03:05*	*1*
o-Terphenyl	*98*		*70 - 130*	*08/28/23 10:16*	*08/29/23 03:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**120**		4.97		mg/Kg			08/29/23 04:38	1

Client Sample ID: BES23-88 1'

Lab Sample ID: 890-5155-12
Matrix: Solid
Date Collected: 08/24/23 08:55
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 17:25	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 17:25	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 17:25	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/28/23 17:11	08/29/23 17:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/28/23 17:11	08/29/23 17:25	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/28/23 17:11*	*08/29/23 17:25*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-88 1'

Date Collected: 08/24/23 08:55
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-12

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/28/23 17:11*	*08/29/23 17:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/28/23 10:16	08/29/23 03:26	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/28/23 10:16	08/29/23 03:26	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/28/23 10:16	08/29/23 03:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*08/28/23 10:16*	*08/29/23 03:26*	*1*
o-Terphenyl	*108*		*70 - 130*	*08/28/23 10:16*	*08/29/23 03:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**346**		4.95		mg/Kg			08/29/23 04:58	1

Client Sample ID: BES23-89 1'

Date Collected: 08/24/23 09:00
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-13

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 17:45	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 17:45	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 17:45	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/28/23 17:11	08/29/23 17:45	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/28/23 17:11	08/29/23 17:45	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*08/28/23 17:11*	*08/29/23 17:45*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*08/28/23 17:11*	*08/29/23 17:45*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/29/23 13:47	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-89 1'

Lab Sample ID: 890-5155-13
Matrix: Solid
Date Collected: 08/24/23 09:00
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/28/23 10:16	08/29/23 03:47	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/28/23 10:16	08/29/23 03:47	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/28/23 10:16	08/29/23 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 03:47*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/28/23 10:16*	*08/29/23 03:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**213**		4.98		mg/Kg			08/29/23 05:05	1

Client Sample ID: BES23-90 1'

Lab Sample ID: 890-5155-14
Matrix: Solid
Date Collected: 08/24/23 09:05
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 18:06	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 18:06	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 18:06	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/28/23 17:11	08/29/23 18:06	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/28/23 17:11	08/29/23 18:06	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*08/28/23 17:11*	*08/29/23 18:06*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*08/28/23 17:11*	*08/29/23 18:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/28/23 10:16	08/29/23 04:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/28/23 10:16	08/29/23 04:08	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/28/23 10:16	08/29/23 04:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*08/28/23 10:16*	*08/29/23 04:08*	*1*
o-Terphenyl	*106*		*70 - 130*	*08/28/23 10:16*	*08/29/23 04:08*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-90 1'

Lab Sample ID: 890-5155-14
Matrix: Solid
Date Collected: 08/24/23 09:05
Date Received: 08/24/23 16:37
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	365		5.02		mg/Kg			08/29/23 05:12	1

Client Sample ID: BES23-91 1'

Lab Sample ID: 890-5155-15
Matrix: Solid
Date Collected: 08/24/23 09:10
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 18:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 18:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 18:26	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/28/23 17:11	08/29/23 18:26	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/28/23 17:11	08/29/23 18:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 18:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*08/28/23 17:11*	*08/29/23 18:26*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/28/23 17:11*	*08/29/23 18:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/28/23 10:16	08/29/23 04:29	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/28/23 10:16	08/29/23 04:29	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/28/23 10:16	08/29/23 04:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 04:29*	*1*
o-Terphenyl	*102*		*70 - 130*	*08/28/23 10:16*	*08/29/23 04:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	155		5.03		mg/Kg			08/29/23 05:18	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-92 1'

Date Collected: 08/24/23 09:15
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-16

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 18:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 18:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 18:47	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/28/23 17:11	08/29/23 18:47	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/28/23 17:11	08/29/23 18:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*08/28/23 17:11*	*08/29/23 18:47*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*08/28/23 17:11*	*08/29/23 18:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/28/23 10:16	08/29/23 04:50	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/28/23 10:16	08/29/23 04:50	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/28/23 10:16	08/29/23 04:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 04:50*	*1*
o-Terphenyl	*115*		*70 - 130*	*08/28/23 10:16*	*08/29/23 04:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**227**		5.00		mg/Kg			08/29/23 05:38	1

Client Sample ID: BES23-93 1'

Date Collected: 08/24/23 09:20
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-17

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 19:07	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 19:07	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 19:07	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/28/23 17:11	08/29/23 19:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/28/23 17:11	08/29/23 19:07	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/28/23 17:11	08/29/23 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*08/28/23 17:11*	*08/29/23 19:07*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-93 1'

Lab Sample ID: 890-5155-17
Matrix: Solid
Date Collected: 08/24/23 09:20
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*08/28/23 17:11*	*08/29/23 19:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/28/23 10:16	08/29/23 05:11	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/28/23 10:16	08/29/23 05:11	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/28/23 10:16	08/29/23 05:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*08/28/23 10:16*	*08/29/23 05:11*	*1*
o-Terphenyl	*104*		*70 - 130*	*08/28/23 10:16*	*08/29/23 05:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**200**		4.99		mg/Kg			08/29/23 05:45	1

Client Sample ID: BES23-94 1'

Lab Sample ID: 890-5155-18
Matrix: Solid
Date Collected: 08/24/23 09:25
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 19:27	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 19:27	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 19:27	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/28/23 17:11	08/29/23 19:27	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/28/23 17:11	08/29/23 19:27	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*08/28/23 17:11*	*08/29/23 19:27*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*08/28/23 17:11*	*08/29/23 19:27*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/29/23 13:47	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-94 1'

Lab Sample ID: 890-5155-18
Matrix: Solid
Date Collected: 08/24/23 09:25
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/28/23 10:16	08/29/23 05:32	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/28/23 10:16	08/29/23 05:32	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/28/23 10:16	08/29/23 05:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*138*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 05:32*	*1*
o-Terphenyl	*98*		*70 - 130*	*08/28/23 10:16*	*08/29/23 05:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**189**		5.04		mg/Kg			08/29/23 05:51	1

Client Sample ID: BES23-95 1'

Lab Sample ID: 890-5155-19
Matrix: Solid
Date Collected: 08/24/23 09:30
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 19:48	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 19:48	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 19:48	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/28/23 17:11	08/29/23 19:48	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/28/23 17:11	08/29/23 19:48	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/28/23 17:11	08/29/23 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/28/23 17:11*	*08/29/23 19:48*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/28/23 17:11*	*08/29/23 19:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/28/23 10:16	08/29/23 05:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/28/23 10:16	08/29/23 05:54	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/28/23 10:16	08/29/23 05:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*143*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 05:54*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/28/23 10:16*	*08/29/23 05:54*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-95 1'

Lab Sample ID: 890-5155-19
Matrix: Solid
Date Collected: 08/24/23 09:30
Date Received: 08/24/23 16:37
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	218		5.02		mg/Kg			08/29/23 05:58	1

Client Sample ID: BES23-96 1'

Lab Sample ID: 890-5155-20
Matrix: Solid
Date Collected: 08/24/23 09:35
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 20:08	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 20:08	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 20:08	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/28/23 17:11	08/29/23 20:08	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/28/23 17:11	08/29/23 20:08	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/28/23 17:11	08/29/23 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/28/23 17:11*	*08/29/23 20:08*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*08/28/23 17:11*	*08/29/23 20:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/29/23 22:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/29/23 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/28/23 10:16	08/29/23 06:16	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/28/23 10:16	08/29/23 06:16	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/28/23 10:16	08/29/23 06:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*08/28/23 10:16*	*08/29/23 06:16*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/28/23 10:16*	*08/29/23 06:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	201		4.99		mg/Kg			08/29/23 06:05	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-97 1'

Lab Sample ID: 890-5155-21
Matrix: Solid
Date Collected: 08/24/23 09:40
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/28/23 09:39	08/29/23 04:37	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/28/23 09:39	08/29/23 04:37	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/28/23 09:39	08/29/23 04:37	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/28/23 09:39	08/29/23 04:37	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/28/23 09:39	08/29/23 04:37	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/28/23 09:39	08/29/23 04:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/28/23 09:39*	*08/29/23 04:37*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*08/28/23 09:39*	*08/29/23 04:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/29/23 10:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/28/23 23:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/28/23 10:53	08/28/23 19:54	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/28/23 10:53	08/28/23 19:54	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/28/23 10:53	08/28/23 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*08/28/23 10:53*	*08/28/23 19:54*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/28/23 10:53*	*08/28/23 19:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**203**		4.99		mg/Kg			08/29/23 06:11	1

Client Sample ID: BES23-98 1'

Lab Sample ID: 890-5155-22
Matrix: Solid
Date Collected: 08/24/23 09:45
Date Received: 08/24/23 16:37
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/28/23 09:39	08/29/23 04:58	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/28/23 09:39	08/29/23 04:58	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/28/23 09:39	08/29/23 04:58	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/28/23 09:39	08/29/23 04:58	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/28/23 09:39	08/29/23 04:58	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/28/23 09:39	08/29/23 04:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*139*	*S1+*	*70 - 130*	*08/28/23 09:39*	*08/29/23 04:58*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-98 1'

Date Collected: 08/24/23 09:45
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-22

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*08/28/23 09:39*	*08/29/23 04:58*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/29/23 10:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/28/23 23:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/28/23 10:53	08/28/23 20:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/28/23 10:53	08/28/23 20:16	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/28/23 10:53	08/28/23 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*08/28/23 10:53*	*08/28/23 20:16*	*1*
o-Terphenyl	*96*		*70 - 130*	*08/28/23 10:53*	*08/28/23 20:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**178**		5.05		mg/Kg			08/29/23 06:31	1

Client Sample ID: BES23-99 1'

Date Collected: 08/24/23 09:50
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-23

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/28/23 09:39	08/29/23 05:18	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/28/23 09:39	08/29/23 05:18	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/28/23 09:39	08/29/23 05:18	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/28/23 09:39	08/29/23 05:18	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/28/23 09:39	08/29/23 05:18	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/28/23 09:39	08/29/23 05:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*	*08/28/23 09:39*	*08/29/23 05:18*	*1*
1,4-Difluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*08/28/23 09:39*	*08/29/23 05:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/29/23 10:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/28/23 23:37	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-99 1'

Date Collected: 08/24/23 09:50
Date Received: 08/24/23 16:37
Sample Depth: 1

Lab Sample ID: 890-5155-23

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/28/23 10:53	08/28/23 20:39	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/28/23 10:53	08/28/23 20:39	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/28/23 10:53	08/28/23 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*08/28/23 10:53*	*08/28/23 20:39*	*1*
o-Terphenyl	*101*		*70 - 130*	*08/28/23 10:53*	*08/28/23 20:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**227**		5.02		mg/Kg			08/29/23 06:38	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)										
880-32590-A-1-B MS	Matrix Spike	96	114										
880-32590-A-1-C MSD	Matrix Spike Duplicate	134 S1+	101										
890-5155-1	BES23-77 1'	82	88										
890-5155-1 MS	BES23-77 1'	78	99										
890-5155-1 MSD	BES23-77 1'	85	91										
890-5155-2	BES23-78 1'	111	151 S1+										
890-5155-3	BES23-79 1'	84	98										
890-5155-4	BES23-80 1'	85	102										
890-5155-5	BES23-81 1'	86	98										
890-5155-6	BES23-82 1'	79	101										
890-5155-7	BES23-83 1'	86	99										
890-5155-8	BES23-84 1'	86	95										
890-5155-9	BES23-85 1'	88	97										
890-5155-10	BES23-86 1'	85	96										
890-5155-11	BES23-87 1'	77	94										
890-5155-12	BES23-88 1'	83	90										
890-5155-13	BES23-89 1'	87	101										
890-5155-14	BES23-90 1'	89	99										
890-5155-15	BES23-91 1'	93	95										
890-5155-16	BES23-92 1'	92	101										
890-5155-17	BES23-93 1'	89	97										
890-5155-18	BES23-94 1'	80	99										
890-5155-19	BES23-95 1'	86	98										
890-5155-20	BES23-96 1'	82	101										
890-5155-21	BES23-97 1'	85	80										
890-5155-22	BES23-98 1'	139 S1+	66 S1-										
890-5155-23	BES23-99 1'	131 S1+	66 S1-										
LCS 880-61257/1-A	Lab Control Sample	112	116										
LCS 880-61364/1-A	Lab Control Sample	80	92										
LCSD 880-61257/2-A	Lab Control Sample Dup	120	106										
LCSD 880-61364/2-A	Lab Control Sample Dup	80	95										
MB 880-61152/5-A	Method Blank	75	76										
MB 880-61257/6-A	Method Blank	76	93										
MB 880-61364/5-A	Method Blank	105	125										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
880-32575-A-5-D MS	Matrix Spike	123	89										
880-32575-A-5-E MSD	Matrix Spike Duplicate	124	92										
890-5155-1	BES23-77 1'	134 S1+	109										
890-5155-1 MS	BES23-77 1'	138 S1+	96										
890-5155-1 MSD	BES23-77 1'	146 S1+	98										

Surrogate Summary

Client: Vertex Job ID: 890-5155-1
Project/Site: Carleton SWD SDG: 23E-03626

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
890-5155-2	BES23-78 1'	124	102								
890-5155-3	BES23-79 1'	139 S1+	112								
890-5155-4	BES23-80 1'	149 S1+	105								
890-5155-5	BES23-81 1'	139 S1+	107								
890-5155-6	BES23-82 1'	135 S1+	110								
890-5155-7	BES23-83 1'	131 S1+	97								
890-5155-8	BES23-84 1'	131 S1+	102								
890-5155-9	BES23-85 1'	136 S1+	102								
890-5155-10	BES23-86 1'	137 S1+	102								
890-5155-11	BES23-87 1'	129	98								
890-5155-12	BES23-88 1'	130	108								
890-5155-13	BES23-89 1'	134 S1+	110								
890-5155-14	BES23-90 1'	128	106								
890-5155-15	BES23-91 1'	137 S1+	102								
890-5155-16	BES23-92 1'	148 S1+	115								
890-5155-17	BES23-93 1'	126	104								
890-5155-18	BES23-94 1'	138 S1+	98								
890-5155-19	BES23-95 1'	143 S1+	110								
890-5155-20	BES23-96 1'	133 S1+	110								
890-5155-21	BES23-97 1'	118	94								
890-5155-22	BES23-98 1'	118	96								
890-5155-23	BES23-99 1'	120	101								
LCS 880-61196/2-A	Lab Control Sample	111	102								
LCS 880-61269/2-A	Lab Control Sample	119	94								
LCSD 880-61196/3-A	Lab Control Sample Dup	124	116								
LCSD 880-61269/3-A	Lab Control Sample Dup	121	107								
MB 880-61196/1-A	Method Blank	136 S1+	111								
MB 880-61269/1-A	Method Blank	125	103								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61152/5-A
Matrix: Solid
Analysis Batch: 61247

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61152

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/23 15:17	08/28/23 11:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/23 15:17	08/28/23 11:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/23 15:17	08/28/23 11:45	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/25/23 15:17	08/28/23 11:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/25/23 15:17	08/28/23 11:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/25/23 15:17	08/28/23 11:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*08/25/23 15:17*	*08/28/23 11:45*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*08/25/23 15:17*	*08/28/23 11:45*	*1*

Lab Sample ID: MB 880-61257/6-A
Matrix: Solid
Analysis Batch: 61247

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/28/23 09:39	08/28/23 22:49	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/28/23 09:39	08/28/23 22:49	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/28/23 09:39	08/28/23 22:49	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/28/23 09:39	08/28/23 22:49	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/28/23 09:39	08/28/23 22:49	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/28/23 09:39	08/28/23 22:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*08/28/23 09:39*	*08/28/23 22:49*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*08/28/23 09:39*	*08/28/23 22:49*	*1*

Lab Sample ID: LCS 880-61257/1-A
Matrix: Solid
Analysis Batch: 61247

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09683		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.1058		mg/Kg		106	70 - 130
Toluene	0.100	0.1110		mg/Kg		111	70 - 130
m-Xylene & p-Xylene	0.200	0.2312		mg/Kg		116	70 - 130
o-Xylene	0.100	0.1154		mg/Kg		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*

Lab Sample ID: LCSD 880-61257/2-A
Matrix: Solid
Analysis Batch: 61247

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61257

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08486		mg/Kg		85	70 - 130	13	35

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

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

Lab Sample ID: LCSD 880-61257/2-A
Matrix: Solid
Analysis Batch: 61247

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61257

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene			0.100	0.1039		mg/Kg		104	70 - 130	2	35
Toluene			0.100	0.1009		mg/Kg		101	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.2297		mg/Kg		115	70 - 130	1	35
o-Xylene			0.100	0.1149		mg/Kg		115	70 - 130	0	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 880-32590-A-1-B MS
Matrix: Solid
Analysis Batch: 61247

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61257

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U F1	0.0994	0.05218	F1	mg/Kg		52	70 - 130
Ethylbenzene	<0.00199	U F1 F2	0.0994	0.03039	F1	mg/Kg		31	70 - 130
Toluene	<0.00199	U F1 F2	0.0994	0.04473	F1	mg/Kg		45	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.199	0.05664	F1	mg/Kg		28	70 - 130
o-Xylene	<0.00199	U F1 F2	0.0994	0.02955	F1	mg/Kg		29	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 880-32590-A-1-C MSD
Matrix: Solid
Analysis Batch: 61247

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61257

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.100	0.06017	F1	mg/Kg		60	70 - 130	14	35
Ethylbenzene	<0.00199	U F1 F2	0.100	0.07719	F2	mg/Kg		77	70 - 130	87	35
Toluene	<0.00199	U F1 F2	0.100	0.07545	F2	mg/Kg		75	70 - 130	51	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.200	0.1666	F2	mg/Kg		83	70 - 130	99	35
o-Xylene	<0.00199	U F1 F2	0.100	0.08579	F2	mg/Kg		85	70 - 130	98	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 880-61364/5-A
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 11:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 11:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 11:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/28/23 17:11	08/29/23 11:41	1

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

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

Lab Sample ID: MB 880-61364/5-A
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/28/23 17:11	08/29/23 11:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 11:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*08/28/23 17:11*	*08/29/23 11:41*	*1*
1,4-Difluorobenzene (Surr)	*125*		*70 - 130*	*08/28/23 17:11*	*08/29/23 11:41*	*1*

Lab Sample ID: LCS 880-61364/1-A
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61364

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1039		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.09387		mg/Kg		94	70 - 130		
Toluene			0.100	0.1013		mg/Kg		101	70 - 130		
m-Xylene & p-Xylene			0.200	0.1775		mg/Kg		89	70 - 130		
o-Xylene			0.100	0.08036		mg/Kg		80	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: LCSD 880-61364/2-A
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61364

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09180		mg/Kg		92	70 - 130	12	35
Ethylbenzene			0.100	0.08326		mg/Kg		83	70 - 130	12	35
Toluene			0.100	0.1025		mg/Kg		102	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1736		mg/Kg		87	70 - 130	2	35
o-Xylene			0.100	0.08143		mg/Kg		81	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-5155-1 MS
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: BES23-77 1'
Prep Type: Total/NA
Prep Batch: 61364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U F1	0.0996	0.07449		mg/Kg		75	70 - 130		
Ethylbenzene	<0.00199	U F1	0.0996	0.04891	F1	mg/Kg		49	70 - 130		
Toluene	<0.00199	U F1	0.0996	0.06687	F1	mg/Kg		67	70 - 130		
m-Xylene & p-Xylene	<0.00398	U F1	0.199	0.1078	F1	mg/Kg		54	70 - 130		
o-Xylene	<0.00199	U F1	0.0996	0.05635	F1	mg/Kg		57	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

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

Lab Sample ID: 890-5155-1 MS
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: BES23-77 1'
Prep Type: Total/NA
Prep Batch: 61364

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	78		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 890-5155-1 MSD
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: BES23-77 1'
Prep Type: Total/NA
Prep Batch: 61364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.101	0.06032	F1	mg/Kg		60	70 - 130	21	35
Ethylbenzene	<0.00199	U F1	0.101	0.05176	F1	mg/Kg		51	70 - 130	6	35
Toluene	<0.00199	U F1	0.101	0.06097	F1	mg/Kg		60	70 - 130	9	35
m-Xylene & p-Xylene	<0.00398	U F1	0.202	0.1118	F1	mg/Kg		55	70 - 130	4	35
o-Xylene	<0.00199	U F1	0.101	0.05449	F1	mg/Kg		54	70 - 130	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	85		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-61196/1-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/26/23 11:04	08/28/23 09:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/26/23 11:04	08/28/23 09:01	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/26/23 11:04	08/28/23 09:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	136	S1+	70 - 130	08/26/23 11:04	08/28/23 09:01	1
o-Terphenyl	111		70 - 130	08/26/23 11:04	08/28/23 09:01	1

Lab Sample ID: LCS 880-61196/2-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	859.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	1000	888.7		mg/Kg		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	102		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

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

Lab Sample ID: LCSD 880-61196/3-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61196

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	936.7		mg/Kg		94	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	952.1		mg/Kg		95	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*116*		*70 - 130*

Lab Sample ID: 880-32575-A-5-D MS
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61196

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1010	998.4		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	1010	1142		mg/Kg		111	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*123*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: 880-32575-A-5-E MSD
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61196

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1010	987.1		mg/Kg		95	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.8	U	1010	1182		mg/Kg		115	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Lab Sample ID: MB 880-61269/1-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/28/23 10:16	08/28/23 21:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/28/23 10:16	08/28/23 21:24	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/28/23 10:16	08/28/23 21:24	1

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

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

Lab Sample ID: MB 880-61269/1-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61269

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	125		70 - 130	08/28/23 10:16	08/28/23 21:24	1
o-Terphenyl	103		70 - 130	08/28/23 10:16	08/28/23 21:24	1

Lab Sample ID: LCS 880-61269/2-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61269

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	905.1		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	842.5		mg/Kg		84	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: LCSD 880-61269/3-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61269

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	856.7		mg/Kg		86	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	834.4		mg/Kg		83	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	121		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: 890-5155-1 MS
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: BES23-77 1'
Prep Type: Total/NA
Prep Batch: 61269

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	998	1022		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.3	U	998	1180		mg/Kg		116	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	138	S1+	70 - 130
o-Terphenyl	96		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

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

Lab Sample ID: 890-5155-1 MSD
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: BES23-77 1'
Prep Type: Total/NA
Prep Batch: 61269

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	998	1079		mg/Kg		106	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<50.3	U	998	1258		mg/Kg		124	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*146*	*S1+*	*70 - 130*
o-Terphenyl	*98*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-61284/1-A
Matrix: Solid
Analysis Batch: 61368

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/29/23 00:26	1

Lab Sample ID: LCS 880-61284/2-A
Matrix: Solid
Analysis Batch: 61368

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	260.3		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-61284/3-A
Matrix: Solid
Analysis Batch: 61368

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	254.1		mg/Kg		102	90 - 110	2	20

Lab Sample ID: 890-5155-1 MS
Matrix: Solid
Analysis Batch: 61368

Client Sample ID: BES23-77 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	293		249	555.3		mg/Kg		106	90 - 110

Lab Sample ID: 890-5155-1 MSD
Matrix: Solid
Analysis Batch: 61368

Client Sample ID: BES23-77 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	293		249	542.6		mg/Kg		100	90 - 110	2	20

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-61285/1-A
Matrix: Solid
Analysis Batch: 61369

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/29/23 04:18	1

Lab Sample ID: LCS 880-61285/2-A
Matrix: Solid
Analysis Batch: 61369

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.2		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-61285/3-A
Matrix: Solid
Analysis Batch: 61369

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	261.3		mg/Kg		105	90 - 110	2	20

Lab Sample ID: 890-5155-11 MS
Matrix: Solid
Analysis Batch: 61369

Client Sample ID: BES23-87 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	120		249	385.1		mg/Kg		107	90 - 110		

Lab Sample ID: 890-5155-11 MSD
Matrix: Solid
Analysis Batch: 61369

Client Sample ID: BES23-87 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	120		249	376.3		mg/Kg		103	90 - 110	2	20

Lab Sample ID: 890-5155-21 MS
Matrix: Solid
Analysis Batch: 61369

Client Sample ID: BES23-97 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	203		250	465.1		mg/Kg		105	90 - 110		

Lab Sample ID: 890-5155-21 MSD
Matrix: Solid
Analysis Batch: 61369

Client Sample ID: BES23-97 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	203		251	466.4		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

GC VOA

Prep Batch: 61152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-61152/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 61247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-21	BES23-97 1'	Total/NA	Solid	8021B	61257
890-5155-22	BES23-98 1'	Total/NA	Solid	8021B	61257
890-5155-23	BES23-99 1'	Total/NA	Solid	8021B	61257
MB 880-61152/5-A	Method Blank	Total/NA	Solid	8021B	61152
MB 880-61257/6-A	Method Blank	Total/NA	Solid	8021B	61257
LCS 880-61257/1-A	Lab Control Sample	Total/NA	Solid	8021B	61257
LCSD 880-61257/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61257
880-32590-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	61257
880-32590-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61257

Prep Batch: 61257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-21	BES23-97 1'	Total/NA	Solid	5035	
890-5155-22	BES23-98 1'	Total/NA	Solid	5035	
890-5155-23	BES23-99 1'	Total/NA	Solid	5035	
MB 880-61257/6-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61257/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61257/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32590-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-32590-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 61364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1	BES23-77 1'	Total/NA	Solid	5035	
890-5155-2	BES23-78 1'	Total/NA	Solid	5035	
890-5155-3	BES23-79 1'	Total/NA	Solid	5035	
890-5155-4	BES23-80 1'	Total/NA	Solid	5035	
890-5155-5	BES23-81 1'	Total/NA	Solid	5035	
890-5155-6	BES23-82 1'	Total/NA	Solid	5035	
890-5155-7	BES23-83 1'	Total/NA	Solid	5035	
890-5155-8	BES23-84 1'	Total/NA	Solid	5035	
890-5155-9	BES23-85 1'	Total/NA	Solid	5035	
890-5155-10	BES23-86 1'	Total/NA	Solid	5035	
890-5155-11	BES23-87 1'	Total/NA	Solid	5035	
890-5155-12	BES23-88 1'	Total/NA	Solid	5035	
890-5155-13	BES23-89 1'	Total/NA	Solid	5035	
890-5155-14	BES23-90 1'	Total/NA	Solid	5035	
890-5155-15	BES23-91 1'	Total/NA	Solid	5035	
890-5155-16	BES23-92 1'	Total/NA	Solid	5035	
890-5155-17	BES23-93 1'	Total/NA	Solid	5035	
890-5155-18	BES23-94 1'	Total/NA	Solid	5035	
890-5155-19	BES23-95 1'	Total/NA	Solid	5035	
890-5155-20	BES23-96 1'	Total/NA	Solid	5035	
MB 880-61364/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61364/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61364/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5155-1 MS	BES23-77 1'	Total/NA	Solid	5035	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

GC VOA (Continued)

Prep Batch: 61364 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1 MSD	BES23-77 1'	Total/NA	Solid	5035	

Analysis Batch: 61424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1	BES23-77 1'	Total/NA	Solid	8021B	61364
890-5155-2	BES23-78 1'	Total/NA	Solid	8021B	61364
890-5155-3	BES23-79 1'	Total/NA	Solid	8021B	61364
890-5155-4	BES23-80 1'	Total/NA	Solid	8021B	61364
890-5155-5	BES23-81 1'	Total/NA	Solid	8021B	61364
890-5155-6	BES23-82 1'	Total/NA	Solid	8021B	61364
890-5155-7	BES23-83 1'	Total/NA	Solid	8021B	61364
890-5155-8	BES23-84 1'	Total/NA	Solid	8021B	61364
890-5155-9	BES23-85 1'	Total/NA	Solid	8021B	61364
890-5155-10	BES23-86 1'	Total/NA	Solid	8021B	61364
890-5155-11	BES23-87 1'	Total/NA	Solid	8021B	61364
890-5155-12	BES23-88 1'	Total/NA	Solid	8021B	61364
890-5155-13	BES23-89 1'	Total/NA	Solid	8021B	61364
890-5155-14	BES23-90 1'	Total/NA	Solid	8021B	61364
890-5155-15	BES23-91 1'	Total/NA	Solid	8021B	61364
890-5155-16	BES23-92 1'	Total/NA	Solid	8021B	61364
890-5155-17	BES23-93 1'	Total/NA	Solid	8021B	61364
890-5155-18	BES23-94 1'	Total/NA	Solid	8021B	61364
890-5155-19	BES23-95 1'	Total/NA	Solid	8021B	61364
890-5155-20	BES23-96 1'	Total/NA	Solid	8021B	61364
MB 880-61364/5-A	Method Blank	Total/NA	Solid	8021B	61364
LCS 880-61364/1-A	Lab Control Sample	Total/NA	Solid	8021B	61364
LCSD 880-61364/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61364
890-5155-1 MS	BES23-77 1'	Total/NA	Solid	8021B	61364
890-5155-1 MSD	BES23-77 1'	Total/NA	Solid	8021B	61364

Analysis Batch: 61441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1	BES23-77 1'	Total/NA	Solid	Total BTEX	
890-5155-2	BES23-78 1'	Total/NA	Solid	Total BTEX	
890-5155-3	BES23-79 1'	Total/NA	Solid	Total BTEX	
890-5155-4	BES23-80 1'	Total/NA	Solid	Total BTEX	
890-5155-5	BES23-81 1'	Total/NA	Solid	Total BTEX	
890-5155-6	BES23-82 1'	Total/NA	Solid	Total BTEX	
890-5155-7	BES23-83 1'	Total/NA	Solid	Total BTEX	
890-5155-8	BES23-84 1'	Total/NA	Solid	Total BTEX	
890-5155-9	BES23-85 1'	Total/NA	Solid	Total BTEX	
890-5155-10	BES23-86 1'	Total/NA	Solid	Total BTEX	
890-5155-11	BES23-87 1'	Total/NA	Solid	Total BTEX	
890-5155-12	BES23-88 1'	Total/NA	Solid	Total BTEX	
890-5155-13	BES23-89 1'	Total/NA	Solid	Total BTEX	
890-5155-14	BES23-90 1'	Total/NA	Solid	Total BTEX	
890-5155-15	BES23-91 1'	Total/NA	Solid	Total BTEX	
890-5155-16	BES23-92 1'	Total/NA	Solid	Total BTEX	
890-5155-17	BES23-93 1'	Total/NA	Solid	Total BTEX	
890-5155-18	BES23-94 1'	Total/NA	Solid	Total BTEX	
890-5155-19	BES23-95 1'	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

GC VOA (Continued)

Analysis Batch: 61441 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-20	BES23-96 1'	Total/NA	Solid	Total BTEX	
890-5155-21	BES23-97 1'	Total/NA	Solid	Total BTEX	
890-5155-22	BES23-98 1'	Total/NA	Solid	Total BTEX	
890-5155-23	BES23-99 1'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 61196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-21	BES23-97 1'	Total/NA	Solid	8015NM Prep	
890-5155-22	BES23-98 1'	Total/NA	Solid	8015NM Prep	
890-5155-23	BES23-99 1'	Total/NA	Solid	8015NM Prep	
MB 880-61196/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61196/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61196/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-32575-A-5-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-32575-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1	BES23-77 1'	Total/NA	Solid	8015B NM	61269
890-5155-2	BES23-78 1'	Total/NA	Solid	8015B NM	61269
890-5155-3	BES23-79 1'	Total/NA	Solid	8015B NM	61269
890-5155-4	BES23-80 1'	Total/NA	Solid	8015B NM	61269
890-5155-5	BES23-81 1'	Total/NA	Solid	8015B NM	61269
890-5155-6	BES23-82 1'	Total/NA	Solid	8015B NM	61269
890-5155-7	BES23-83 1'	Total/NA	Solid	8015B NM	61269
890-5155-8	BES23-84 1'	Total/NA	Solid	8015B NM	61269
890-5155-9	BES23-85 1'	Total/NA	Solid	8015B NM	61269
890-5155-10	BES23-86 1'	Total/NA	Solid	8015B NM	61269
890-5155-11	BES23-87 1'	Total/NA	Solid	8015B NM	61269
890-5155-12	BES23-88 1'	Total/NA	Solid	8015B NM	61269
890-5155-13	BES23-89 1'	Total/NA	Solid	8015B NM	61269
890-5155-14	BES23-90 1'	Total/NA	Solid	8015B NM	61269
890-5155-15	BES23-91 1'	Total/NA	Solid	8015B NM	61269
890-5155-16	BES23-92 1'	Total/NA	Solid	8015B NM	61269
890-5155-17	BES23-93 1'	Total/NA	Solid	8015B NM	61269
890-5155-18	BES23-94 1'	Total/NA	Solid	8015B NM	61269
890-5155-19	BES23-95 1'	Total/NA	Solid	8015B NM	61269
890-5155-20	BES23-96 1'	Total/NA	Solid	8015B NM	61269
890-5155-21	BES23-97 1'	Total/NA	Solid	8015B NM	61196
890-5155-22	BES23-98 1'	Total/NA	Solid	8015B NM	61196
890-5155-23	BES23-99 1'	Total/NA	Solid	8015B NM	61196
MB 880-61196/1-A	Method Blank	Total/NA	Solid	8015B NM	61196
MB 880-61269/1-A	Method Blank	Total/NA	Solid	8015B NM	61269
LCS 880-61196/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61196
LCS 880-61269/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61269
LCSD 880-61196/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61196
LCSD 880-61269/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61269
880-32575-A-5-D MS	Matrix Spike	Total/NA	Solid	8015B NM	61196
880-32575-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	61196

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

GC Semi VOA (Continued)

Analysis Batch: 61237 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1 MS	BES23-77 1'	Total/NA	Solid	8015B NM	61269
890-5155-1 MSD	BES23-77 1'	Total/NA	Solid	8015B NM	61269

Prep Batch: 61269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1	BES23-77 1'	Total/NA	Solid	8015NM Prep	
890-5155-2	BES23-78 1'	Total/NA	Solid	8015NM Prep	
890-5155-3	BES23-79 1'	Total/NA	Solid	8015NM Prep	
890-5155-4	BES23-80 1'	Total/NA	Solid	8015NM Prep	
890-5155-5	BES23-81 1'	Total/NA	Solid	8015NM Prep	
890-5155-6	BES23-82 1'	Total/NA	Solid	8015NM Prep	
890-5155-7	BES23-83 1'	Total/NA	Solid	8015NM Prep	
890-5155-8	BES23-84 1'	Total/NA	Solid	8015NM Prep	
890-5155-9	BES23-85 1'	Total/NA	Solid	8015NM Prep	
890-5155-10	BES23-86 1'	Total/NA	Solid	8015NM Prep	
890-5155-11	BES23-87 1'	Total/NA	Solid	8015NM Prep	
890-5155-12	BES23-88 1'	Total/NA	Solid	8015NM Prep	
890-5155-13	BES23-89 1'	Total/NA	Solid	8015NM Prep	
890-5155-14	BES23-90 1'	Total/NA	Solid	8015NM Prep	
890-5155-15	BES23-91 1'	Total/NA	Solid	8015NM Prep	
890-5155-16	BES23-92 1'	Total/NA	Solid	8015NM Prep	
890-5155-17	BES23-93 1'	Total/NA	Solid	8015NM Prep	
890-5155-18	BES23-94 1'	Total/NA	Solid	8015NM Prep	
890-5155-19	BES23-95 1'	Total/NA	Solid	8015NM Prep	
890-5155-20	BES23-96 1'	Total/NA	Solid	8015NM Prep	
MB 880-61269/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61269/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61269/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5155-1 MS	BES23-77 1'	Total/NA	Solid	8015NM Prep	
890-5155-1 MSD	BES23-77 1'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1	BES23-77 1'	Total/NA	Solid	8015 NM	
890-5155-2	BES23-78 1'	Total/NA	Solid	8015 NM	
890-5155-3	BES23-79 1'	Total/NA	Solid	8015 NM	
890-5155-4	BES23-80 1'	Total/NA	Solid	8015 NM	
890-5155-5	BES23-81 1'	Total/NA	Solid	8015 NM	
890-5155-6	BES23-82 1'	Total/NA	Solid	8015 NM	
890-5155-7	BES23-83 1'	Total/NA	Solid	8015 NM	
890-5155-8	BES23-84 1'	Total/NA	Solid	8015 NM	
890-5155-9	BES23-85 1'	Total/NA	Solid	8015 NM	
890-5155-10	BES23-86 1'	Total/NA	Solid	8015 NM	
890-5155-11	BES23-87 1'	Total/NA	Solid	8015 NM	
890-5155-12	BES23-88 1'	Total/NA	Solid	8015 NM	
890-5155-13	BES23-89 1'	Total/NA	Solid	8015 NM	
890-5155-14	BES23-90 1'	Total/NA	Solid	8015 NM	
890-5155-15	BES23-91 1'	Total/NA	Solid	8015 NM	
890-5155-16	BES23-92 1'	Total/NA	Solid	8015 NM	
890-5155-17	BES23-93 1'	Total/NA	Solid	8015 NM	
890-5155-18	BES23-94 1'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

GC Semi VOA (Continued)

Analysis Batch: 61414 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-19	BES23-95 1'	Total/NA	Solid	8015 NM	
890-5155-20	BES23-96 1'	Total/NA	Solid	8015 NM	
890-5155-21	BES23-97 1'	Total/NA	Solid	8015 NM	
890-5155-22	BES23-98 1'	Total/NA	Solid	8015 NM	
890-5155-23	BES23-99 1'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 61284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1	BES23-77 1'	Soluble	Solid	DI Leach	
890-5155-2	BES23-78 1'	Soluble	Solid	DI Leach	
890-5155-3	BES23-79 1'	Soluble	Solid	DI Leach	
890-5155-4	BES23-80 1'	Soluble	Solid	DI Leach	
890-5155-5	BES23-81 1'	Soluble	Solid	DI Leach	
890-5155-6	BES23-82 1'	Soluble	Solid	DI Leach	
890-5155-7	BES23-83 1'	Soluble	Solid	DI Leach	
890-5155-8	BES23-84 1'	Soluble	Solid	DI Leach	
890-5155-9	BES23-85 1'	Soluble	Solid	DI Leach	
890-5155-10	BES23-86 1'	Soluble	Solid	DI Leach	
MB 880-61284/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61284/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61284/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5155-1 MS	BES23-77 1'	Soluble	Solid	DI Leach	
890-5155-1 MSD	BES23-77 1'	Soluble	Solid	DI Leach	

Leach Batch: 61285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-11	BES23-87 1'	Soluble	Solid	DI Leach	
890-5155-12	BES23-88 1'	Soluble	Solid	DI Leach	
890-5155-13	BES23-89 1'	Soluble	Solid	DI Leach	
890-5155-14	BES23-90 1'	Soluble	Solid	DI Leach	
890-5155-15	BES23-91 1'	Soluble	Solid	DI Leach	
890-5155-16	BES23-92 1'	Soluble	Solid	DI Leach	
890-5155-17	BES23-93 1'	Soluble	Solid	DI Leach	
890-5155-18	BES23-94 1'	Soluble	Solid	DI Leach	
890-5155-19	BES23-95 1'	Soluble	Solid	DI Leach	
890-5155-20	BES23-96 1'	Soluble	Solid	DI Leach	
890-5155-21	BES23-97 1'	Soluble	Solid	DI Leach	
890-5155-22	BES23-98 1'	Soluble	Solid	DI Leach	
890-5155-23	BES23-99 1'	Soluble	Solid	DI Leach	
MB 880-61285/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61285/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61285/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5155-11 MS	BES23-87 1'	Soluble	Solid	DI Leach	
890-5155-11 MSD	BES23-87 1'	Soluble	Solid	DI Leach	
890-5155-21 MS	BES23-97 1'	Soluble	Solid	DI Leach	
890-5155-21 MSD	BES23-97 1'	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

HPLC/IC

Analysis Batch: 61368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-1	BES23-77 1'	Soluble	Solid	300.0	61284
890-5155-2	BES23-78 1'	Soluble	Solid	300.0	61284
890-5155-3	BES23-79 1'	Soluble	Solid	300.0	61284
890-5155-4	BES23-80 1'	Soluble	Solid	300.0	61284
890-5155-5	BES23-81 1'	Soluble	Solid	300.0	61284
890-5155-6	BES23-82 1'	Soluble	Solid	300.0	61284
890-5155-7	BES23-83 1'	Soluble	Solid	300.0	61284
890-5155-8	BES23-84 1'	Soluble	Solid	300.0	61284
890-5155-9	BES23-85 1'	Soluble	Solid	300.0	61284
890-5155-10	BES23-86 1'	Soluble	Solid	300.0	61284
MB 880-61284/1-A	Method Blank	Soluble	Solid	300.0	61284
LCS 880-61284/2-A	Lab Control Sample	Soluble	Solid	300.0	61284
LCSD 880-61284/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61284
890-5155-1 MS	BES23-77 1'	Soluble	Solid	300.0	61284
890-5155-1 MSD	BES23-77 1'	Soluble	Solid	300.0	61284

Analysis Batch: 61369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5155-11	BES23-87 1'	Soluble	Solid	300.0	61285
890-5155-12	BES23-88 1'	Soluble	Solid	300.0	61285
890-5155-13	BES23-89 1'	Soluble	Solid	300.0	61285
890-5155-14	BES23-90 1'	Soluble	Solid	300.0	61285
890-5155-15	BES23-91 1'	Soluble	Solid	300.0	61285
890-5155-16	BES23-92 1'	Soluble	Solid	300.0	61285
890-5155-17	BES23-93 1'	Soluble	Solid	300.0	61285
890-5155-18	BES23-94 1'	Soluble	Solid	300.0	61285
890-5155-19	BES23-95 1'	Soluble	Solid	300.0	61285
890-5155-20	BES23-96 1'	Soluble	Solid	300.0	61285
890-5155-21	BES23-97 1'	Soluble	Solid	300.0	61285
890-5155-22	BES23-98 1'	Soluble	Solid	300.0	61285
890-5155-23	BES23-99 1'	Soluble	Solid	300.0	61285
MB 880-61285/1-A	Method Blank	Soluble	Solid	300.0	61285
LCS 880-61285/2-A	Lab Control Sample	Soluble	Solid	300.0	61285
LCSD 880-61285/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61285
890-5155-11 MS	BES23-87 1'	Soluble	Solid	300.0	61285
890-5155-11 MSD	BES23-87 1'	Soluble	Solid	300.0	61285
890-5155-21 MS	BES23-97 1'	Soluble	Solid	300.0	61285
890-5155-21 MSD	BES23-97 1'	Soluble	Solid	300.0	61285

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-77 1'
Date Collected: 08/24/23 08:00
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 12:10	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/28/23 22:29	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 02:19	CH	EET MID

Client Sample ID: BES23-78 1'
Date Collected: 08/24/23 08:05
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 12:30	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/28/23 23:33	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 02:39	CH	EET MID

Client Sample ID: BES23-79 1'
Date Collected: 08/24/23 08:10
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 12:51	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/28/23 23:54	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 02:45	CH	EET MID

Client Sample ID: BES23-80 1'
Date Collected: 08/24/23 08:15
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 13:11	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID

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Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-80 1'
Date Collected: 08/24/23 08:15
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 00:15	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 03:05	CH	EET MID

Client Sample ID: BES23-81 1'
Date Collected: 08/24/23 08:20
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 13:32	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 00:36	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 03:12	CH	EET MID

Client Sample ID: BES23-82 1'
Date Collected: 08/24/23 08:25
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 13:52	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 00:58	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 03:19	CH	EET MID

Client Sample ID: BES23-83 1'
Date Collected: 08/24/23 08:30
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 14:12	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 01:19	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-83 1'
Date Collected: 08/24/23 08:30
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 03:25	CH	EET MID

Client Sample ID: BES23-84 1'
Date Collected: 08/24/23 08:35
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 14:33	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 01:40	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 03:32	CH	EET MID

Client Sample ID: BES23-85 1'
Date Collected: 08/24/23 08:40
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 14:53	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 02:01	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 03:38	CH	EET MID

Client Sample ID: BES23-86 1'
Date Collected: 08/24/23 08:45
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 15:14	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 02:22	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61284	08/28/23 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61368	08/29/23 03:45	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-87 1'
Date Collected: 08/24/23 08:50
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 17:05	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 03:05	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 04:38	CH	EET MID

Client Sample ID: BES23-88 1'
Date Collected: 08/24/23 08:55
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 17:25	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 03:26	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 04:58	CH	EET MID

Client Sample ID: BES23-89 1'
Date Collected: 08/24/23 09:00
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 17:45	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 03:47	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 05:05	CH	EET MID

Client Sample ID: BES23-90 1'
Date Collected: 08/24/23 09:05
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 18:06	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID

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Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-90 1'
Date Collected: 08/24/23 09:05
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 04:08	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 05:12	CH	EET MID

Client Sample ID: BES23-91 1'
Date Collected: 08/24/23 09:10
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 18:26	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 04:29	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 05:18	CH	EET MID

Client Sample ID: BES23-92 1'
Date Collected: 08/24/23 09:15
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 18:47	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 04:50	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 05:38	CH	EET MID

Client Sample ID: BES23-93 1'
Date Collected: 08/24/23 09:20
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 19:07	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 05:11	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-93 1'
Date Collected: 08/24/23 09:20
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 05:45	CH	EET MID

Client Sample ID: BES23-94 1'
Date Collected: 08/24/23 09:25
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 19:27	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 05:32	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 05:51	CH	EET MID

Client Sample ID: BES23-95 1'
Date Collected: 08/24/23 09:30
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 19:48	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 05:54	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 05:58	CH	EET MID

Client Sample ID: BES23-96 1'
Date Collected: 08/24/23 09:35
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61364	08/28/23 17:11	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/29/23 20:08	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/29/23 13:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	61269	08/28/23 10:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/29/23 06:16	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 06:05	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Client Sample ID: BES23-97 1'
Date Collected: 08/24/23 09:40
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61257	08/28/23 09:39	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61247	08/29/23 04:37	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 10:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/28/23 23:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	61196	08/28/23 10:53	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/28/23 19:54	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 06:11	CH	EET MID

Client Sample ID: BES23-98 1'
Date Collected: 08/24/23 09:45
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	61257	08/28/23 09:39	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61247	08/29/23 04:58	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 10:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/28/23 23:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	61196	08/28/23 10:53	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/28/23 20:16	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 06:31	CH	EET MID

Client Sample ID: BES23-99 1'
Date Collected: 08/24/23 09:50
Date Received: 08/24/23 16:37

Lab Sample ID: 890-5155-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61257	08/28/23 09:39	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61247	08/29/23 05:18	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61441	08/29/23 10:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			61414	08/28/23 23:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	61196	08/28/23 10:53	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/28/23 20:39	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61285	08/28/23 11:09	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61369	08/29/23 06:38	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5155-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5155-1	BES23-77 1'	Solid	08/24/23 08:00	08/24/23 16:37	1
890-5155-2	BES23-78 1'	Solid	08/24/23 08:05	08/24/23 16:37	1
890-5155-3	BES23-79 1'	Solid	08/24/23 08:10	08/24/23 16:37	1
890-5155-4	BES23-80 1'	Solid	08/24/23 08:15	08/24/23 16:37	1
890-5155-5	BES23-81 1'	Solid	08/24/23 08:20	08/24/23 16:37	1
890-5155-6	BES23-82 1'	Solid	08/24/23 08:25	08/24/23 16:37	1
890-5155-7	BES23-83 1'	Solid	08/24/23 08:30	08/24/23 16:37	1
890-5155-8	BES23-84 1'	Solid	08/24/23 08:35	08/24/23 16:37	1
890-5155-9	BES23-85 1'	Solid	08/24/23 08:40	08/24/23 16:37	1
890-5155-10	BES23-86 1'	Solid	08/24/23 08:45	08/24/23 16:37	1
890-5155-11	BES23-87 1'	Solid	08/24/23 08:50	08/24/23 16:37	1
890-5155-12	BES23-88 1'	Solid	08/24/23 08:55	08/24/23 16:37	1
890-5155-13	BES23-89 1'	Solid	08/24/23 09:00	08/24/23 16:37	1
890-5155-14	BES23-90 1'	Solid	08/24/23 09:05	08/24/23 16:37	1
890-5155-15	BES23-91 1'	Solid	08/24/23 09:10	08/24/23 16:37	1
890-5155-16	BES23-92 1'	Solid	08/24/23 09:15	08/24/23 16:37	1
890-5155-17	BES23-93 1'	Solid	08/24/23 09:20	08/24/23 16:37	1
890-5155-18	BES23-94 1'	Solid	08/24/23 09:25	08/24/23 16:37	1
890-5155-19	BES23-95 1'	Solid	08/24/23 09:30	08/24/23 16:37	1
890-5155-20	BES23-96 1'	Solid	08/24/23 09:35	08/24/23 16:37	1
890-5155-21	BES23-97 1'	Solid	08/24/23 09:40	08/24/23 16:37	1
890-5155-22	BES23-98 1'	Solid	08/24/23 09:45	08/24/23 16:37	1
890-5155-23	BES23-99 1'	Solid	08/24/23 09:50	08/24/23 16:37	1

Released to Imaging: 3/19/2024 9:29:09 AM
Received by OCD: 10/13/2023 12:00:18 AM

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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

Work Order No: _____

www.xenco.com Page 1 of 3

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	~~Routine~~	Rush: X
Project Location:		Due Date:	2 Day
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TNM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	17.4
Total Containers:		Corrected Temperature:	17.2

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	TPH	BTEX	Cl
BES23-77 1'	Soil	8/24/23	8:00		5					
BES23-78 1'			8:05							
BES23-79 1'			8:10							
BES23-80 1'			8:15							
BES23-81 1'			8:20							
BES23-82 1'			8:25							
BES23-83 1'			8:30							
BES23-84 1'			8:35							
BES23-85 1'			8:40							
BES23-86 1'			8:45							

890-5155 Chain of Custody

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 Hunter Klein		8.24.23 1637			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Released to Imaging: 3/19/2024 9:29:09 AM
Received by OCD: 10/13/2023 12:00:18 AM

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Chain of Custody

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Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

www.xenco.com Page 2 of 3

Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

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

Project Name:		Turn Around	
Project Number:		☐ Routine ☒ Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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_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	Grab/ Comp	# of Cont	Pres. Code	Parameters: TPH	BTEX	Cl	Sample Comments
BES23-87 1'	Soil	8/24/23	8:50		C	5		X	X	X	
BES23-88 1'			8:55								
BES23-89 1'			9:00								
BES23-90 1'			9:05								
BES23-91 1'			9:10								
BES23-92 1'			9:15								
BES23-93 1'			9:20								
BES23-94 1'			9:25								
BES23-95 1'			9:30								
BES23-96 1'			9:35								

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Released to Imaging: 3/19/2024 9:29:09 AM
Received by OCD: 10/13/2023 12:00:18 AM

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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

Work Order No: _____

www.xenco.com Page 3 of 3

Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

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

Project Name:		Turn Around	
Project Number:		☐ Routine ☒ Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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:	

Pres. Code

Parameters

ANALYSIS REQUEST

TRH
BTEX
Cl

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	Grab/ Comp	# of Cont	Sample Comments
BES23-97 1'	Soil	8/24/23	9:40		5		
BES23-98 1'	↓	↓	9:45		↓		
BES23-99 1'	↓	↓	9:50		↓		

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8.24.23 1637			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5155-1
SDG Number: 23E-03626

Login Number: 5155
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5155-1
SDG Number: 23E-03626

Login Number: 5155
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/28/23 09:44 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 8/30/2023 11:19:37 AM

JOB DESCRIPTION

CarletonSWD
SDG NUMBER 23E-D3626

JOB NUMBER

890-5161-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

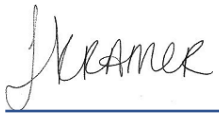
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: CarletonSWD

Laboratory Job ID: 890-5161-1
SDG: 23E-D3626

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Definitions/Glossary

Client: Vertex Job ID: 890-5161-1
Project/Site: CarletonSWD SDG: 23E-D3626

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

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/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Job ID: 890-5161-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5161-1

Receipt
The samples were received on 8/25/2023 3:09 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 11.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BES23-100 4' (890-5161-1), BES23-101 4' (890-5161-2), BES23-102 4' (890-5161-3), BES23-103 4' (890-5161-4), BES23-104 4' (890-5161-5), BES23-105 1' (890-5161-6), BES23-106 1' (890-5161-7), BES23-107 1' (890-5161-8), BES23-108 1' (890-5161-9), BES23-109 1' (890-5161-10) and BES23-110 1' (890-5161-11).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61487 and analytical batch 880-61423 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.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61484 and analytical batch 880-61424 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-61415/31), (CCV 880-61415/47), (CCV 880-61415/58) and (LCSD 880-61372/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61372 and analytical batch 880-61415 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-100 4' (890-5161-1), BES23-101 4' (890-5161-2), (890-5156-A-1-A), (890-5156-A-1-B MS) and (890-5156-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-104 4' (890-5161-5), BES23-105 1' (890-5161-6), BES23-106 1' (890-5161-7), BES23-107 1' (890-5161-8), BES23-108 1' (890-5161-9), BES23-109 1' (890-5161-10) and BES23-110 1' (890-5161-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61372 and analytical batch 880-61415 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-61432 and analytical batch 880-61491 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control 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.

Client Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-100 4'

Date Collected: 08/25/23 08:00
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U F1	0.00198		mg/Kg		08/29/23 15:32	08/29/23 22:24	1
Ethylbenzene	<0.00198	U F1	0.00198		mg/Kg		08/29/23 15:32	08/29/23 22:24	1
Toluene	<0.00198	U F1	0.00198		mg/Kg		08/29/23 15:32	08/29/23 22:24	1
Xylenes, Total	<0.00397	U F1	0.00397		mg/Kg		08/29/23 15:32	08/29/23 22:24	1
m-Xylene & p-Xylene	<0.00397	U F1	0.00397		mg/Kg		08/29/23 15:32	08/29/23 22:24	1
o-Xylene	<0.00198	U F1	0.00198		mg/Kg		08/29/23 15:32	08/29/23 22:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*08/29/23 15:32*	*08/29/23 22:24*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*08/29/23 15:32*	*08/29/23 22:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/28/23 18:34	08/30/23 00:20	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/28/23 18:34	08/30/23 00:20	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/28/23 18:34	08/30/23 00:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*08/28/23 18:34*	*08/30/23 00:20*	*1*
o-Terphenyl	*126*		*70 - 130*	*08/28/23 18:34*	*08/30/23 00:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**97.0**		4.97		mg/Kg			08/30/23 00:19	1

Client Sample ID: BES23-101 4'

Date Collected: 08/25/23 08:05
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/29/23 15:32	08/29/23 22:45	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/29/23 15:32	08/29/23 22:45	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/29/23 15:32	08/29/23 22:45	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/29/23 15:32	08/29/23 22:45	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/29/23 15:32	08/29/23 22:45	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/29/23 15:32	08/29/23 22:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*08/29/23 15:32*	*08/29/23 22:45*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*08/29/23 15:32*	*08/29/23 22:45*	*1*

Client Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-101 4'

Lab Sample ID: 890-5161-2
Matrix: Solid
Date Collected: 08/25/23 08:05
Date Received: 08/25/23 15:09

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/28/23 18:34	08/30/23 01:04	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/28/23 18:34	08/30/23 01:04	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/28/23 18:34	08/30/23 01:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*08/28/23 18:34*	*08/30/23 01:04*	*1*
o-Terphenyl	*129*		*70 - 130*	*08/28/23 18:34*	*08/30/23 01:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**61.6**		4.95		mg/Kg			08/30/23 00:26	1

Client Sample ID: BES23-102 4'

Lab Sample ID: 890-5161-3
Matrix: Solid
Date Collected: 08/25/23 08:10
Date Received: 08/25/23 15:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/29/23 15:32	08/29/23 23:06	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/29/23 15:32	08/29/23 23:06	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/29/23 15:32	08/29/23 23:06	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/29/23 15:32	08/29/23 23:06	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/29/23 15:32	08/29/23 23:06	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/29/23 15:32	08/29/23 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*08/29/23 15:32*	*08/29/23 23:06*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*08/29/23 15:32*	*08/29/23 23:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/29/23 10:54	08/30/23 01:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/29/23 10:54	08/30/23 01:25	1

Client Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-102 4'

Date Collected: 08/25/23 08:10
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-3
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/29/23 10:54	08/30/23 01:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*08/29/23 10:54*	*08/30/23 01:25*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/29/23 10:54*	*08/30/23 01:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**40.5**		5.01		mg/Kg			08/30/23 00:33	1

Client Sample ID: BES23-103 4'

Date Collected: 08/25/23 08:15
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/29/23 23:26	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/29/23 23:26	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/29/23 23:26	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/29/23 15:32	08/29/23 23:26	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/29/23 15:32	08/29/23 23:26	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/29/23 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*08/29/23 15:32*	*08/29/23 23:26*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*08/29/23 15:32*	*08/29/23 23:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**84.3**		50.3		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/29/23 10:54	08/30/23 01:47	1
Diesel Range Organics (Over C10-C28)	**84.3**		50.3		mg/Kg		08/29/23 10:54	08/30/23 01:47	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/29/23 10:54	08/30/23 01:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*08/29/23 10:54*	*08/30/23 01:47*	*1*
o-Terphenyl	*98*		*70 - 130*	*08/29/23 10:54*	*08/30/23 01:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**85.2**	**F1**	4.98		mg/Kg			08/30/23 00:39	1

Client Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-104 4'

Date Collected: 08/25/23 08:20
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/29/23 15:32	08/29/23 23:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/29/23 15:32	08/29/23 23:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/29/23 15:32	08/29/23 23:47	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/29/23 15:32	08/29/23 23:47	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/29/23 15:32	08/29/23 23:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/29/23 15:32	08/29/23 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*08/29/23 15:32*	*08/29/23 23:47*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*08/29/23 15:32*	*08/29/23 23:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**70.1**		50.1		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/29/23 10:54	08/30/23 02:09	1
Diesel Range Organics (Over C10-C28)	**70.1**		50.1		mg/Kg		08/29/23 10:54	08/30/23 02:09	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/29/23 10:54	08/30/23 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*08/29/23 10:54*	*08/30/23 02:09*	*1*
o-Terphenyl	*129*		*70 - 130*	*08/29/23 10:54*	*08/30/23 02:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**55.8**		4.97		mg/Kg			08/30/23 00:59	1

Client Sample ID: BES23-105 1'

Date Collected: 08/25/23 08:25
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/30/23 00:08	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/30/23 00:08	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/30/23 00:08	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/29/23 15:32	08/30/23 00:08	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/29/23 15:32	08/30/23 00:08	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/30/23 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*08/29/23 15:32*	*08/30/23 00:08*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*08/29/23 15:32*	*08/30/23 00:08*	*1*

Client Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-105 1'

Lab Sample ID: 890-5161-6
Matrix: Solid
Date Collected: 08/25/23 08:25
Date Received: 08/25/23 15:09

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**105**		50.4		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/29/23 10:54	08/30/23 02:30	1
Diesel Range Organics (Over C10-C28)	**105**		50.4		mg/Kg		08/29/23 10:54	08/30/23 02:30	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/29/23 10:54	08/30/23 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*08/29/23 10:54*	*08/30/23 02:30*	*1*
o-Terphenyl	*126*		*70 - 130*	*08/29/23 10:54*	*08/30/23 02:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**257**		5.03		mg/Kg			08/30/23 01:06	1

Client Sample ID: BES23-106 1'

Lab Sample ID: 890-5161-7
Matrix: Solid
Date Collected: 08/25/23 08:30
Date Received: 08/25/23 15:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/29/23 15:32	08/30/23 00:28	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/29/23 15:32	08/30/23 00:28	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/29/23 15:32	08/30/23 00:28	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/29/23 15:32	08/30/23 00:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/29/23 15:32	08/30/23 00:28	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/29/23 15:32	08/30/23 00:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*08/29/23 15:32*	*08/30/23 00:28*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*08/29/23 15:32*	*08/30/23 00:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**76.9**		49.7		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/29/23 10:54	08/30/23 02:52	1
Diesel Range Organics (Over C10-C28)	**76.9**		49.7		mg/Kg		08/29/23 10:54	08/30/23 02:52	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-106 1'

Date Collected: 08/25/23 08:30
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-7
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/29/23 10:54	08/30/23 02:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*08/29/23 10:54*	*08/30/23 02:52*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*08/29/23 10:54*	*08/30/23 02:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**247**		5.04		mg/Kg			08/30/23 01:26	1

Client Sample ID: BES23-107 1'

Date Collected: 08/25/23 08:35
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/30/23 00:49	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/30/23 00:49	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/30/23 00:49	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/29/23 15:32	08/30/23 00:49	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/29/23 15:32	08/30/23 00:49	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/29/23 15:32	08/30/23 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*08/29/23 15:32*	*08/30/23 00:49*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*08/29/23 15:32*	*08/30/23 00:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/29/23 10:54	08/30/23 03:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/23 10:54	08/30/23 03:13	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/23 10:54	08/30/23 03:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*145*	*S1+*	*70 - 130*	*08/29/23 10:54*	*08/30/23 03:13*	*1*
o-Terphenyl	*138*	*S1+*	*70 - 130*	*08/29/23 10:54*	*08/30/23 03:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**196**		5.04		mg/Kg			08/30/23 01:33	1

Client Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-108 1'

Lab Sample ID: 890-5161-9
Matrix: Solid
Date Collected: 08/25/23 08:40
Date Received: 08/25/23 15:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/29/23 09:40	08/29/23 18:38	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/29/23 09:40	08/29/23 18:38	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/29/23 09:40	08/29/23 18:38	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/29/23 09:40	08/29/23 18:38	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/29/23 09:40	08/29/23 18:38	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/29/23 09:40	08/29/23 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/29/23 09:40*	*08/29/23 18:38*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*08/29/23 09:40*	*08/29/23 18:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**84.2**		50.0		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/29/23 10:54	08/30/23 03:35	1
Diesel Range Organics (Over C10-C28)	**84.2**		50.0		mg/Kg		08/29/23 10:54	08/30/23 03:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/23 10:54	08/30/23 03:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*08/29/23 10:54*	*08/30/23 03:35*	*1*
o-Terphenyl	*130*		*70 - 130*	*08/29/23 10:54*	*08/30/23 03:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**276**		4.96		mg/Kg			08/30/23 01:40	1

Client Sample ID: BES23-109 1'

Lab Sample ID: 890-5161-10
Matrix: Solid
Date Collected: 08/25/23 08:45
Date Received: 08/25/23 15:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/29/23 09:40	08/29/23 18:58	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/29/23 09:40	08/29/23 18:58	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/29/23 09:40	08/29/23 18:58	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/29/23 09:40	08/29/23 18:58	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/29/23 09:40	08/29/23 18:58	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/29/23 09:40	08/29/23 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*08/29/23 09:40*	*08/29/23 18:58*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*08/29/23 09:40*	*08/29/23 18:58*	*1*

Client Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-109 1'

Lab Sample ID: 890-5161-10
Matrix: Solid
Date Collected: 08/25/23 08:45
Date Received: 08/25/23 15:09

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/30/23 08:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**51.8**		50.3		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/29/23 10:54	08/30/23 03:57	1
Diesel Range Organics (Over C10-C28)	**51.8**		50.3		mg/Kg		08/29/23 10:54	08/30/23 03:57	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/29/23 10:54	08/30/23 03:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*08/29/23 10:54*	*08/30/23 03:57*	*1*
o-Terphenyl	*130*		*70 - 130*	*08/29/23 10:54*	*08/30/23 03:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**229**		4.98		mg/Kg			08/30/23 01:46	1

Client Sample ID: BES23-110 1'

Lab Sample ID: 890-5161-11
Matrix: Solid
Date Collected: 08/25/23 08:50
Date Received: 08/25/23 15:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/29/23 14:27	08/30/23 04:40	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/29/23 14:27	08/30/23 04:40	1
Toluene	**0.00218**		0.00202		mg/Kg		08/29/23 14:27	08/30/23 04:40	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/29/23 14:27	08/30/23 04:40	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/29/23 14:27	08/30/23 04:40	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/29/23 14:27	08/30/23 04:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*08/29/23 14:27*	*08/30/23 04:40*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/29/23 14:27*	*08/30/23 04:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/30/23 09:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**200**		50.1		mg/Kg			08/30/23 11:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/29/23 10:54	08/30/23 04:18	1
Diesel Range Organics (Over C10-C28)	**200**		50.1		mg/Kg		08/29/23 10:54	08/30/23 04:18	1

Client Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-110 1'

Date Collected: 08/25/23 08:50
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-11

Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/29/23 10:54	08/30/23 04:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*08/29/23 10:54*	*08/30/23 04:18*	*1*
o-Terphenyl	*129*		*70 - 130*	*08/29/23 10:54*	*08/30/23 04:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**215**		5.01		mg/Kg			08/30/23 01:53	1

Surrogate Summary

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-32654-A-9-C MS	Matrix Spike	96	88
880-32654-A-9-D MSD	Matrix Spike Duplicate	86	84
890-5161-1	BES23-100 4'	79	99
890-5161-1 MS	BES23-100 4'	95	107
890-5161-1 MSD	BES23-100 4'	87	113
890-5161-2	BES23-101 4'	81	109
890-5161-3	BES23-102 4'	87	113
890-5161-4	BES23-103 4'	92	111
890-5161-5	BES23-104 4'	92	107
890-5161-6	BES23-105 1'	88	113
890-5161-7	BES23-106 1'	89	114
890-5161-8	BES23-107 1'	90	113
890-5161-9	BES23-108 1'	83	114
890-5161-10	BES23-109 1'	92	109
890-5161-11	BES23-110 1'	71	91
LCS 880-61431/1-A	Lab Control Sample	86	106
LCS 880-61484/1-A	Lab Control Sample	91	96
LCS 880-61487/1-A	Lab Control Sample	88	106
LCSD 880-61431/2-A	Lab Control Sample Dup	102	106
LCSD 880-61484/2-A	Lab Control Sample Dup	84	84
LCSD 880-61487/2-A	Lab Control Sample Dup	100	105
MB 880-61364/5-A	Method Blank	105	125
MB 880-61431/6-A	Method Blank	72	95
MB 880-61484/5-A	Method Blank	105	127
MB 880-61487/5-A	Method Blank	72	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5156-A-1-B MS	Matrix Spike	156 S1+	132 S1+
890-5156-A-1-C MSD	Matrix Spike Duplicate	149 S1+	125
890-5161-1	BES23-100 4'	135 S1+	126
890-5161-2	BES23-101 4'	135 S1+	129
890-5161-3	BES23-102 4'	127	118
890-5161-4	BES23-103 4'	105	98
890-5161-5	BES23-104 4'	137 S1+	129
890-5161-6	BES23-105 1'	136 S1+	126
890-5161-7	BES23-106 1'	142 S1+	133 S1+
890-5161-8	BES23-107 1'	145 S1+	138 S1+
890-5161-9	BES23-108 1'	142 S1+	130
890-5161-10	BES23-109 1'	137 S1+	130
890-5161-11	BES23-110 1'	142 S1+	129
LCS 880-61372/2-A	Lab Control Sample	118	124

Surrogate Summary

Client: Vertex Job ID: 890-5161-1
Project/Site: CarletonSWD SDG: 23E-D3626

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
LCSD 880-61372/3-A	Lab Control Sample Dup	147 S1+	155 S1+								
MB 880-61372/1-A	Method Blank	135 S1+	132 S1+								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61364/5-A
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 11:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 11:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 11:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/28/23 17:11	08/29/23 11:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/28/23 17:11	08/29/23 11:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/28/23 17:11	08/29/23 11:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*08/28/23 17:11*	*08/29/23 11:41*	*1*
1,4-Difluorobenzene (Surr)	*125*		*70 - 130*	*08/28/23 17:11*	*08/29/23 11:41*	*1*

Lab Sample ID: MB 880-61431/6-A
Matrix: Solid
Analysis Batch: 61423

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61431

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/29/23 09:40	08/29/23 11:22	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/29/23 09:40	08/29/23 11:22	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/29/23 09:40	08/29/23 11:22	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/29/23 09:40	08/29/23 11:22	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/29/23 09:40	08/29/23 11:22	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/29/23 09:40	08/29/23 11:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*08/29/23 09:40*	*08/29/23 11:22*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/29/23 09:40*	*08/29/23 11:22*	*1*

Lab Sample ID: LCS 880-61431/1-A
Matrix: Solid
Analysis Batch: 61423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61431

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09297		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.08256		mg/Kg		83	70 - 130
Toluene	0.100	0.09479		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	0.200	0.1753		mg/Kg		88	70 - 130
o-Xylene	0.100	0.08738		mg/Kg		87	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-61431/2-A
Matrix: Solid
Analysis Batch: 61423

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61431

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09228		mg/Kg		92	70 - 130	1	35

QC Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

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

Lab Sample ID: LCSD 880-61431/2-A
Matrix: Solid
Analysis Batch: 61423

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61431

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene			0.100	0.09862		mg/Kg		99	70 - 130	18	35
Toluene			0.100	0.1049		mg/Kg		105	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.2167		mg/Kg		108	70 - 130	21	35
o-Xylene			0.100	0.1078		mg/Kg		108	70 - 130	21	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 880-61484/5-A
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61484

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/29/23 14:27	08/29/23 23:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/29/23 14:27	08/29/23 23:17	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/29/23 14:27	08/29/23 23:17	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/29/23 14:27	08/29/23 23:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/29/23 14:27	08/29/23 23:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/29/23 14:27	08/29/23 23:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*08/29/23 14:27*	*08/29/23 23:17*	*1*
1,4-Difluorobenzene (Surr)	*127*		*70 - 130*	*08/29/23 14:27*	*08/29/23 23:17*	*1*

Lab Sample ID: LCS 880-61484/1-A
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61484

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene			0.100	0.09161		mg/Kg		92	70 - 130
Ethylbenzene			0.100	0.08736		mg/Kg		87	70 - 130
Toluene			0.100	0.09249		mg/Kg		92	70 - 130
m-Xylene & p-Xylene			0.200	0.1813		mg/Kg		91	70 - 130
o-Xylene			0.100	0.08777		mg/Kg		88	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-61484/2-A
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61484

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08299		mg/Kg		83	70 - 130	10	35
Ethylbenzene			0.100	0.08019		mg/Kg		80	70 - 130	9	35
Toluene			0.100	0.09468		mg/Kg		95	70 - 130	2	35

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QC Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

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

Lab Sample ID: LCSD 880-61484/2-A
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61484

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Xylene & p-Xylene			0.200	0.1648		mg/Kg		82	70 - 130	10	35
o-Xylene			0.100	0.07892		mg/Kg		79	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*

Lab Sample ID: 880-32654-A-9-C MS
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61484

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.0127	F1	0.0996	0.09279		mg/Kg		80	70 - 130
Ethylbenzene	0.00818	F1	0.0996	0.08268		mg/Kg		75	70 - 130
Toluene	0.0607	F1	0.0996	0.1209	F1	mg/Kg		60	70 - 130
m-Xylene & p-Xylene	0.0786	F1	0.199	0.2281		mg/Kg		75	70 - 130
o-Xylene	0.0280	F1	0.0996	0.1014		mg/Kg		74	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: 880-32654-A-9-D MSD
Matrix: Solid
Analysis Batch: 61424

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61484

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0127	F1	0.101	0.07423	F1	mg/Kg		61	70 - 130	22	35
Ethylbenzene	0.00818	F1	0.101	0.06383	F1	mg/Kg		55	70 - 130	26	35
Toluene	0.0607	F1	0.101	0.1002	F1	mg/Kg		39	70 - 130	19	35
m-Xylene & p-Xylene	0.0786	F1	0.202	0.1882	F1	mg/Kg		54	70 - 130	19	35
o-Xylene	0.0280	F1	0.101	0.08345	F1	mg/Kg		55	70 - 130	19	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*

Lab Sample ID: MB 880-61487/5-A
Matrix: Solid
Analysis Batch: 61423

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61487

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/29/23 15:32	08/29/23 22:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/29/23 15:32	08/29/23 22:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/29/23 15:32	08/29/23 22:02	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/29/23 15:32	08/29/23 22:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/29/23 15:32	08/29/23 22:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/29/23 15:32	08/29/23 22:02	1

QC Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130	08/29/23 15:32	08/29/23 22:02	1
1,4-Difluorobenzene (Surr)	95		70 - 130	08/29/23 15:32	08/29/23 22:02	1

Lab Sample ID: LCS 880-61487/1-A
Matrix: Solid
Analysis Batch: 61423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61487

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08961		mg/Kg		90	70 - 130		
Ethylbenzene			0.100	0.08258		mg/Kg		83	70 - 130		
Toluene			0.100	0.09343		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			0.200	0.1754		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08881		mg/Kg		89	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-61487/2-A
Matrix: Solid
Analysis Batch: 61423

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61487

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08702		mg/Kg		87	70 - 130	3	35
Ethylbenzene			0.100	0.09202		mg/Kg		92	70 - 130	11	35
Toluene			0.100	0.09887		mg/Kg		99	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2002		mg/Kg		100	70 - 130	13	35
o-Xylene			0.100	0.1017		mg/Kg		102	70 - 130	14	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 890-5161-1 MS
Matrix: Solid
Analysis Batch: 61423

Client Sample ID: BES23-100 4'
Prep Type: Total/NA
Prep Batch: 61487

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U F1	0.101	0.03368	F1	mg/Kg		33	70 - 130		
Ethylbenzene	<0.00198	U F1	0.101	0.02829	F1	mg/Kg		28	70 - 130		
Toluene	<0.00198	U F1	0.101	0.03732	F1	mg/Kg		37	70 - 130		
m-Xylene & p-Xylene	<0.00397	U F1	0.202	0.05807	F1	mg/Kg		29	70 - 130		
o-Xylene	<0.00198	U F1	0.101	0.02946	F1	mg/Kg		29	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

QC Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

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

Lab Sample ID: 890-5161-1 MSD
Matrix: Solid
Analysis Batch: 61423

Client Sample ID: BES23-100 4'
Prep Type: Total/NA
Prep Batch: 61487

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U F1	0.101	0.03242	F1	mg/Kg		32	70 - 130	4	35
Ethylbenzene	<0.00198	U F1	0.101	0.03202	F1	mg/Kg		32	70 - 130	12	35
Toluene	<0.00198	U F1	0.101	0.04070	F1	mg/Kg		40	70 - 130	9	35
m-Xylene & p-Xylene	<0.00397	U F1	0.202	0.06237	F1	mg/Kg		31	70 - 130	7	35
o-Xylene	<0.00198	U F1	0.101	0.03241	F1	mg/Kg		32	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-61372/1-A
Matrix: Solid
Analysis Batch: 61415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/28/23 18:34	08/29/23 19:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/28/23 18:34	08/29/23 19:20	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/28/23 18:34	08/29/23 19:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*08/28/23 18:34*	*08/29/23 19:20*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*08/28/23 18:34*	*08/29/23 19:20*	*1*

Lab Sample ID: LCS 880-61372/2-A
Matrix: Solid
Analysis Batch: 61415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1006		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1060		mg/Kg		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*118*		*70 - 130*
o-Terphenyl	*124*		*70 - 130*

Lab Sample ID: LCSD 880-61372/3-A
Matrix: Solid
Analysis Batch: 61415

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61372

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1145		mg/Kg		115	70 - 130	13	20

QC Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

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

Lab Sample ID: LCSD 880-61372/3-A
Matrix: Solid
Analysis Batch: 61415

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61372

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)			1000	1227		mg/Kg		123	70 - 130	15	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*147*	*S1+*	*70 - 130*
o-Terphenyl	*155*	*S1+*	*70 - 130*

Lab Sample ID: 890-5156-A-1-B MS
Matrix: Solid
Analysis Batch: 61415

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61372

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1	1010	1722	F1	mg/Kg		167	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U F1	1010	1459	F1	mg/Kg		142	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*156*	*S1+*	*70 - 130*
o-Terphenyl	*132*	*S1+*	*70 - 130*

Lab Sample ID: 890-5156-A-1-C MSD
Matrix: Solid
Analysis Batch: 61415

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61372

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1	1010	1513	F1	mg/Kg		146	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<49.8	U F1	1010	1412	F1	mg/Kg		138	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*149*	*S1+*	*70 - 130*
o-Terphenyl	*125*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-61432/1-A
Matrix: Solid
Analysis Batch: 61491

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/29/23 22:47	1

Lab Sample ID: LCS 880-61432/2-A
Matrix: Solid
Analysis Batch: 61491

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	256.9		mg/Kg		103	90 - 110

QC Sample Results

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 880-61432/3-A
Matrix: Solid
Analysis Batch: 61491

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	254.5		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 890-5161-4 MS
Matrix: Solid
Analysis Batch: 61491

Client Sample ID: BES23-103 4'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	85.2	F1	249	361.6	F1	mg/Kg		111	90 - 110

Lab Sample ID: 890-5161-4 MSD
Matrix: Solid
Analysis Batch: 61491

Client Sample ID: BES23-103 4'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	85.2	F1	249	343.6		mg/Kg		104	90 - 110	5	20

QC Association Summary

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

GC VOA

Prep Batch: 61364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-61364/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 61423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-1	BES23-100 4'	Total/NA	Solid	8021B	61487
890-5161-2	BES23-101 4'	Total/NA	Solid	8021B	61487
890-5161-3	BES23-102 4'	Total/NA	Solid	8021B	61487
890-5161-4	BES23-103 4'	Total/NA	Solid	8021B	61487
890-5161-5	BES23-104 4'	Total/NA	Solid	8021B	61487
890-5161-6	BES23-105 1'	Total/NA	Solid	8021B	61487
890-5161-7	BES23-106 1'	Total/NA	Solid	8021B	61487
890-5161-8	BES23-107 1'	Total/NA	Solid	8021B	61487
890-5161-9	BES23-108 1'	Total/NA	Solid	8021B	61431
890-5161-10	BES23-109 1'	Total/NA	Solid	8021B	61431
MB 880-61431/6-A	Method Blank	Total/NA	Solid	8021B	61431
MB 880-61487/5-A	Method Blank	Total/NA	Solid	8021B	61487
LCS 880-61431/1-A	Lab Control Sample	Total/NA	Solid	8021B	61431
LCS 880-61487/1-A	Lab Control Sample	Total/NA	Solid	8021B	61487
LCSD 880-61431/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61431
LCSD 880-61487/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61487
890-5161-1 MS	BES23-100 4'	Total/NA	Solid	8021B	61487
890-5161-1 MSD	BES23-100 4'	Total/NA	Solid	8021B	61487

Analysis Batch: 61424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-11	BES23-110 1'	Total/NA	Solid	8021B	61484
MB 880-61364/5-A	Method Blank	Total/NA	Solid	8021B	61364
MB 880-61484/5-A	Method Blank	Total/NA	Solid	8021B	61484
LCS 880-61484/1-A	Lab Control Sample	Total/NA	Solid	8021B	61484
LCSD 880-61484/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61484
880-32654-A-9-C MS	Matrix Spike	Total/NA	Solid	8021B	61484
880-32654-A-9-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61484

Prep Batch: 61431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-9	BES23-108 1'	Total/NA	Solid	5035	
890-5161-10	BES23-109 1'	Total/NA	Solid	5035	
MB 880-61431/6-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61431/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61431/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 61484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-11	BES23-110 1'	Total/NA	Solid	5035	
MB 880-61484/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61484/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61484/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32654-A-9-C MS	Matrix Spike	Total/NA	Solid	5035	
880-32654-A-9-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

QC Association Summary

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

GC VOA

Prep Batch: 61487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-1	BES23-100 4'	Total/NA	Solid	5035	
890-5161-2	BES23-101 4'	Total/NA	Solid	5035	
890-5161-3	BES23-102 4'	Total/NA	Solid	5035	
890-5161-4	BES23-103 4'	Total/NA	Solid	5035	
890-5161-5	BES23-104 4'	Total/NA	Solid	5035	
890-5161-6	BES23-105 1'	Total/NA	Solid	5035	
890-5161-7	BES23-106 1'	Total/NA	Solid	5035	
890-5161-8	BES23-107 1'	Total/NA	Solid	5035	
MB 880-61487/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61487/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61487/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5161-1 MS	BES23-100 4'	Total/NA	Solid	5035	
890-5161-1 MSD	BES23-100 4'	Total/NA	Solid	5035	

Analysis Batch: 61513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-1	BES23-100 4'	Total/NA	Solid	Total BTEX	
890-5161-2	BES23-101 4'	Total/NA	Solid	Total BTEX	
890-5161-3	BES23-102 4'	Total/NA	Solid	Total BTEX	
890-5161-4	BES23-103 4'	Total/NA	Solid	Total BTEX	
890-5161-5	BES23-104 4'	Total/NA	Solid	Total BTEX	
890-5161-6	BES23-105 1'	Total/NA	Solid	Total BTEX	
890-5161-7	BES23-106 1'	Total/NA	Solid	Total BTEX	
890-5161-8	BES23-107 1'	Total/NA	Solid	Total BTEX	
890-5161-9	BES23-108 1'	Total/NA	Solid	Total BTEX	
890-5161-10	BES23-109 1'	Total/NA	Solid	Total BTEX	
890-5161-11	BES23-110 1'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 61372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-1	BES23-100 4'	Total/NA	Solid	8015NM Prep	
890-5161-2	BES23-101 4'	Total/NA	Solid	8015NM Prep	
890-5161-3	BES23-102 4'	Total/NA	Solid	8015NM Prep	
890-5161-4	BES23-103 4'	Total/NA	Solid	8015NM Prep	
890-5161-5	BES23-104 4'	Total/NA	Solid	8015NM Prep	
890-5161-6	BES23-105 1'	Total/NA	Solid	8015NM Prep	
890-5161-7	BES23-106 1'	Total/NA	Solid	8015NM Prep	
890-5161-8	BES23-107 1'	Total/NA	Solid	8015NM Prep	
890-5161-9	BES23-108 1'	Total/NA	Solid	8015NM Prep	
890-5161-10	BES23-109 1'	Total/NA	Solid	8015NM Prep	
890-5161-11	BES23-110 1'	Total/NA	Solid	8015NM Prep	
MB 880-61372/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61372/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61372/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5156-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5156-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

GC Semi VOA

Analysis Batch: 61415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-1	BES23-100 4'	Total/NA	Solid	8015B NM	61372
890-5161-2	BES23-101 4'	Total/NA	Solid	8015B NM	61372
890-5161-3	BES23-102 4'	Total/NA	Solid	8015B NM	61372
890-5161-4	BES23-103 4'	Total/NA	Solid	8015B NM	61372
890-5161-5	BES23-104 4'	Total/NA	Solid	8015B NM	61372
890-5161-6	BES23-105 1'	Total/NA	Solid	8015B NM	61372
890-5161-7	BES23-106 1'	Total/NA	Solid	8015B NM	61372
890-5161-8	BES23-107 1'	Total/NA	Solid	8015B NM	61372
890-5161-9	BES23-108 1'	Total/NA	Solid	8015B NM	61372
890-5161-10	BES23-109 1'	Total/NA	Solid	8015B NM	61372
890-5161-11	BES23-110 1'	Total/NA	Solid	8015B NM	61372
MB 880-61372/1-A	Method Blank	Total/NA	Solid	8015B NM	61372
LCS 880-61372/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61372
LCSD 880-61372/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61372
890-5156-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	61372
890-5156-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	61372

Analysis Batch: 61557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-1	BES23-100 4'	Total/NA	Solid	8015 NM	
890-5161-2	BES23-101 4'	Total/NA	Solid	8015 NM	
890-5161-3	BES23-102 4'	Total/NA	Solid	8015 NM	
890-5161-4	BES23-103 4'	Total/NA	Solid	8015 NM	
890-5161-5	BES23-104 4'	Total/NA	Solid	8015 NM	
890-5161-6	BES23-105 1'	Total/NA	Solid	8015 NM	
890-5161-7	BES23-106 1'	Total/NA	Solid	8015 NM	
890-5161-8	BES23-107 1'	Total/NA	Solid	8015 NM	
890-5161-9	BES23-108 1'	Total/NA	Solid	8015 NM	
890-5161-10	BES23-109 1'	Total/NA	Solid	8015 NM	
890-5161-11	BES23-110 1'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 61432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-1	BES23-100 4'	Soluble	Solid	DI Leach	
890-5161-2	BES23-101 4'	Soluble	Solid	DI Leach	
890-5161-3	BES23-102 4'	Soluble	Solid	DI Leach	
890-5161-4	BES23-103 4'	Soluble	Solid	DI Leach	
890-5161-5	BES23-104 4'	Soluble	Solid	DI Leach	
890-5161-6	BES23-105 1'	Soluble	Solid	DI Leach	
890-5161-7	BES23-106 1'	Soluble	Solid	DI Leach	
890-5161-8	BES23-107 1'	Soluble	Solid	DI Leach	
890-5161-9	BES23-108 1'	Soluble	Solid	DI Leach	
890-5161-10	BES23-109 1'	Soluble	Solid	DI Leach	
890-5161-11	BES23-110 1'	Soluble	Solid	DI Leach	
MB 880-61432/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61432/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61432/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5161-4 MS	BES23-103 4'	Soluble	Solid	DI Leach	
890-5161-4 MSD	BES23-103 4'	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

HPLC/IC

Analysis Batch: 61491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5161-1	BES23-100 4'	Soluble	Solid	300.0	61432
890-5161-2	BES23-101 4'	Soluble	Solid	300.0	61432
890-5161-3	BES23-102 4'	Soluble	Solid	300.0	61432
890-5161-4	BES23-103 4'	Soluble	Solid	300.0	61432
890-5161-5	BES23-104 4'	Soluble	Solid	300.0	61432
890-5161-6	BES23-105 1'	Soluble	Solid	300.0	61432
890-5161-7	BES23-106 1'	Soluble	Solid	300.0	61432
890-5161-8	BES23-107 1'	Soluble	Solid	300.0	61432
890-5161-9	BES23-108 1'	Soluble	Solid	300.0	61432
890-5161-10	BES23-109 1'	Soluble	Solid	300.0	61432
890-5161-11	BES23-110 1'	Soluble	Solid	300.0	61432
MB 880-61432/1-A	Method Blank	Soluble	Solid	300.0	61432
LCS 880-61432/2-A	Lab Control Sample	Soluble	Solid	300.0	61432
LCSD 880-61432/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61432
890-5161-4 MS	BES23-103 4'	Soluble	Solid	300.0	61432
890-5161-4 MSD	BES23-103 4'	Soluble	Solid	300.0	61432

Lab Chronicle

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-100 4'
Date Collected: 08/25/23 08:00
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61487	08/29/23 15:32	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/29/23 22:24	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	61372	08/28/23 18:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 00:20	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 00:19	CH	EET MID

Client Sample ID: BES23-101 4'
Date Collected: 08/25/23 08:05
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	61487	08/29/23 15:32	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/29/23 22:45	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	61372	08/28/23 18:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 01:04	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 00:26	CH	EET MID

Client Sample ID: BES23-102 4'
Date Collected: 08/25/23 08:10
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61487	08/29/23 15:32	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/29/23 23:06	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	61372	08/29/23 10:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 01:25	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 00:33	CH	EET MID

Client Sample ID: BES23-103 4'
Date Collected: 08/25/23 08:15
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61487	08/29/23 15:32	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/29/23 23:26	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-103 4'
Date Collected: 08/25/23 08:15
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61372	08/29/23 10:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 01:47	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 00:39	CH	EET MID

Client Sample ID: BES23-104 4'
Date Collected: 08/25/23 08:20
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61487	08/29/23 15:32	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/29/23 23:47	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	61372	08/29/23 10:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 02:09	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 00:59	CH	EET MID

Client Sample ID: BES23-105 1'
Date Collected: 08/25/23 08:25
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61487	08/29/23 15:32	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/30/23 00:08	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	61372	08/29/23 10:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 02:30	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 01:06	CH	EET MID

Client Sample ID: BES23-106 1'
Date Collected: 08/25/23 08:30
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61487	08/29/23 15:32	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/30/23 00:28	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	61372	08/29/23 10:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 02:52	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-106 1'
Date Collected: 08/25/23 08:30
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 01:26	CH	EET MID

Client Sample ID: BES23-107 1'
Date Collected: 08/25/23 08:35
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61487	08/29/23 15:32	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/30/23 00:49	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	61372	08/29/23 10:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 03:13	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 01:33	CH	EET MID

Client Sample ID: BES23-108 1'
Date Collected: 08/25/23 08:40
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61431	08/29/23 09:40	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/29/23 18:38	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	61372	08/29/23 10:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 03:35	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 01:40	CH	EET MID

Client Sample ID: BES23-109 1'
Date Collected: 08/25/23 08:45
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61431	08/29/23 09:40	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61423	08/29/23 18:58	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 08:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61372	08/29/23 10:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 03:57	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 01:46	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Client Sample ID: BES23-110 1'

Date Collected: 08/25/23 08:50
Date Received: 08/25/23 15:09

Lab Sample ID: 890-5161-11

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61484	08/29/23 14:27	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61424	08/30/23 04:40	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61513	08/30/23 09:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			61557	08/30/23 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	61372	08/29/23 10:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61415	08/30/23 04:18	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 01:53	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: CarletonSWD

Job ID: 890-5161-1
SDG: 23E-D3626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-5161-1	BES23-100 4'	Solid	08/25/23 08:00	08/25/23 15:09
890-5161-2	BES23-101 4'	Solid	08/25/23 08:05	08/25/23 15:09
890-5161-3	BES23-102 4'	Solid	08/25/23 08:10	08/25/23 15:09
890-5161-4	BES23-103 4'	Solid	08/25/23 08:15	08/25/23 15:09
890-5161-5	BES23-104 4'	Solid	08/25/23 08:20	08/25/23 15:09
890-5161-6	BES23-105 1'	Solid	08/25/23 08:25	08/25/23 15:09
890-5161-7	BES23-106 1'	Solid	08/25/23 08:30	08/25/23 15:09
890-5161-8	BES23-107 1'	Solid	08/25/23 08:35	08/25/23 15:09
890-5161-9	BES23-108 1'	Solid	08/25/23 08:40	08/25/23 15:09
890-5161-10	BES23-109 1'	Solid	08/25/23 08:45	08/25/23 15:09
890-5161-11	BES23-110 1'	Solid	08/25/23 08:50	08/25/23 15:09

Released to Imaging: 3/19/2024 9:29:09 AM
Received by OCD: 10/13/2023 12:00:18 AM

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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

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	

Work Order Comments

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

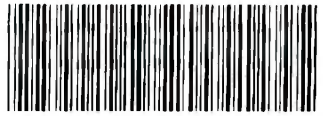
Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-003626	☐ Routine ☒ Rush 48hr	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)
Samples Received Intact:	(Yes) No	Thermometer ID:	T_NM_007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	11.4
Total Containers:		Corrected Temperature:	11.2

ANALYSIS REQUEST

Pres. Code

Parameters: BTEX, TPH



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	Grab/ Comp	# of Cont	Sample Comments
BES23-100 4'	Soil	8/25/23	8:00		C	5	
BES23-101 4'			8:05				
BES23-102 4'			8:10				
BES23-103 4'			8:15				
BES23-104 4'			8:20				
BES23-105 1'			8:25				
BES23-106 1'			8:30				
BES23-107 1'			8:35				
BES23-108 1'			8:40				
BES23-109 1'			8:45				
BES23-110 1'			8:50				

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	Hunter Klein		8-25-23 15:09			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5161-1
SDG Number: 23E-D3626

Login Number: 5161
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5161-1
SDG Number: 23E-D3626

Login Number: 5161
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/29/23 10:38 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	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/1/2023 2:09:47 PM

JOB DESCRIPTION

Carleton SWD

JOB NUMBER

890-5169-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

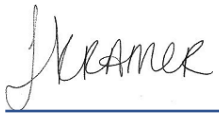
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
9/1/2023 2:09:47 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-5169-1

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Definitions/Glossary

Client: Vertex Job ID: 890-5169-1
Project/Site: Carleton SWD

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-5169-1

Job ID: 890-5169-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5169-1

Receipt
The samples were received on 8/28/2023 4:08 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 12.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BES23-111 1' (890-5169-1), BES23-112 1' (890-5169-2), BES23-113 1' (890-5169-3), BES23-114 1' (890-5169-4), BES23-115 1' (890-5169-5), BES23-116 1' (890-5169-6), BES23-117 1' (890-5169-7), BES23-118 1' (890-5169-8), BES23-119 1' (890-5169-9), BES23-120 1' (890-5169-10), BES23-121 1' (890-5169-11) and BES23-122 2' (890-5169-12).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (880-32754-A-1-D MS) and (880-32754-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-32754-A-1-F). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-61676 and analytical batch 880-61634 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control 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.

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61566 and analytical batch 880-61504 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-111 1' (890-5169-1), BES23-112 1' (890-5169-2), BES23-113 1' (890-5169-3), BES23-114 1' (890-5169-4), BES23-115 1' (890-5169-5), BES23-116 1' (890-5169-6), BES23-117 1' (890-5169-7), BES23-118 1' (890-5169-8), BES23-119 1' (890-5169-9), BES23-120 1' (890-5169-10), (890-5169-A-2-C MS) and (890-5169-A-2-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-121 1' (890-5169-11) and BES23-122 2' (890-5169-12). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-61504/31), (CCV 880-61504/47) and (CCV 880-61504/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61566 and analytical batch 880-61504 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: The laboratory control sample (LCS) associated with preparation batch 880-61537, 880-61537 and 880-61537 and analytical batch 880-61599 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Case Narrative

Client: Vertex
Job ID: 890-5169-1
Project/Site: Carleton SWD

Job ID: 890-5169-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-111 1'

Lab Sample ID: 890-5169-1
Matrix: Solid
Date Collected: 08/28/23 08:00
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/31/23 10:15	08/31/23 20:25	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/31/23 10:15	08/31/23 20:25	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/31/23 10:15	08/31/23 20:25	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/31/23 10:15	08/31/23 20:25	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/31/23 10:15	08/31/23 20:25	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/31/23 10:15	08/31/23 20:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/31/23 10:15*	*08/31/23 20:25*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*08/31/23 10:15*	*08/31/23 20:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/01/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/30/23 12:13	08/30/23 22:06	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/30/23 12:13	08/30/23 22:06	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/30/23 12:13	08/30/23 22:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*147*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 22:06*	*1*
o-Terphenyl	*138*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 22:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**149**	***-**	5.01		mg/Kg			08/30/23 20:21	1

Client Sample ID: BES23-112 1'

Lab Sample ID: 890-5169-2
Matrix: Solid
Date Collected: 08/28/23 08:05
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/31/23 10:15	08/31/23 20:45	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/31/23 10:15	08/31/23 20:45	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/31/23 10:15	08/31/23 20:45	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/31/23 10:15	08/31/23 20:45	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/31/23 10:15	08/31/23 20:45	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/31/23 10:15	08/31/23 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/31/23 10:15*	*08/31/23 20:45*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-112 1'

Lab Sample ID: 890-5169-2
Matrix: Solid
Date Collected: 08/28/23 08:05
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/31/23 10:15*	*08/31/23 20:45*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/01/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/30/23 12:13	08/30/23 21:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U F1	49.9		mg/Kg		08/30/23 12:13	08/30/23 21:01	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/30/23 12:13	08/30/23 21:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*157*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 21:01*	*1*
o-Terphenyl	*155*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 21:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**200**	*-	5.02		mg/Kg			08/30/23 20:27	1

Client Sample ID: BES23-113 1'

Lab Sample ID: 890-5169-3
Matrix: Solid
Date Collected: 08/28/23 08:10
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/31/23 10:15	08/31/23 21:06	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/31/23 10:15	08/31/23 21:06	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/31/23 10:15	08/31/23 21:06	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/31/23 10:15	08/31/23 21:06	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/31/23 10:15	08/31/23 21:06	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/31/23 10:15	08/31/23 21:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/31/23 10:15*	*08/31/23 21:06*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*08/31/23 10:15*	*08/31/23 21:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			09/01/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**52.7**		50.2		mg/Kg			08/31/23 10:35	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-113 1'

Lab Sample ID: 890-5169-3
Matrix: Solid
Date Collected: 08/28/23 08:10
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/30/23 12:13	08/30/23 22:27	1
Diesel Range Organics (Over C10-C28)	**52.7**		50.2		mg/Kg		08/30/23 12:13	08/30/23 22:27	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/30/23 12:13	08/30/23 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*147*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 22:27*	*1*
o-Terphenyl	*137*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 22:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**321**		4.99		mg/Kg			08/30/23 22:30	1

Client Sample ID: BES23-114 1'

Lab Sample ID: 890-5169-4
Matrix: Solid
Date Collected: 08/28/23 08:15
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/31/23 10:15	08/31/23 21:26	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/31/23 10:15	08/31/23 21:26	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/31/23 10:15	08/31/23 21:26	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/31/23 10:15	08/31/23 21:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/31/23 10:15	08/31/23 21:26	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/31/23 10:15	08/31/23 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*08/31/23 10:15*	*08/31/23 21:26*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*08/31/23 10:15*	*08/31/23 21:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/01/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**93.0**		50.4		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/30/23 12:13	08/30/23 22:49	1
Diesel Range Organics (Over C10-C28)	**93.0**		50.4		mg/Kg		08/30/23 12:13	08/30/23 22:49	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/30/23 12:13	08/30/23 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*175*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 22:49*	*1*
o-Terphenyl	*160*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 22:49*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-114 1'

Lab Sample ID: 890-5169-4
Matrix: Solid
Date Collected: 08/28/23 08:15
Date Received: 08/28/23 16:08
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		5.05		mg/Kg			08/30/23 22:50	1

Client Sample ID: BES23-115 1'

Lab Sample ID: 890-5169-5
Matrix: Solid
Date Collected: 08/28/23 08:20
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 21:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 21:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 21:47	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/31/23 10:15	08/31/23 21:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/31/23 10:15	08/31/23 21:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*08/31/23 10:15*	*08/31/23 21:47*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/31/23 10:15*	*08/31/23 21:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/01/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/30/23 12:13	08/30/23 23:10	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/30/23 12:13	08/30/23 23:10	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/30/23 12:13	08/30/23 23:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*155*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 23:10*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 23:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	143		4.95		mg/Kg			08/30/23 22:57	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-116 1'

Lab Sample ID: 890-5169-6
Matrix: Solid
Date Collected: 08/28/23 08:25
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/31/23 10:15	08/31/23 22:07	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/31/23 10:15	08/31/23 22:07	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/31/23 10:15	08/31/23 22:07	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/31/23 10:15	08/31/23 22:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/31/23 10:15	08/31/23 22:07	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/31/23 10:15	08/31/23 22:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*08/31/23 10:15*	*08/31/23 22:07*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*08/31/23 10:15*	*08/31/23 22:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/01/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/30/23 12:13	08/30/23 23:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/23 12:13	08/30/23 23:31	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/23 12:13	08/30/23 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 23:31*	*1*
o-Terphenyl	*138*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 23:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**143**		5.03		mg/Kg			08/30/23 23:04	1

Client Sample ID: BES23-117 1'

Lab Sample ID: 890-5169-7
Matrix: Solid
Date Collected: 08/28/23 08:30
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/31/23 10:15	08/31/23 22:27	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/31/23 10:15	08/31/23 22:27	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/31/23 10:15	08/31/23 22:27	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/31/23 10:15	08/31/23 22:27	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/31/23 10:15	08/31/23 22:27	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/31/23 10:15	08/31/23 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/31/23 10:15*	*08/31/23 22:27*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-117 1'

Lab Sample ID: 890-5169-7
Matrix: Solid
Date Collected: 08/28/23 08:30
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/31/23 10:15*	*08/31/23 22:27*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/01/23 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/30/23 12:13	08/30/23 23:53	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/30/23 12:13	08/30/23 23:53	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/30/23 12:13	08/30/23 23:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*164*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 23:53*	*1*
o-Terphenyl	*155*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/30/23 23:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**208**		4.99		mg/Kg			08/30/23 23:10	1

Client Sample ID: BES23-118 1'

Lab Sample ID: 890-5169-8
Matrix: Solid
Date Collected: 08/28/23 08:35
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/31/23 15:47	09/01/23 07:40	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/31/23 15:47	09/01/23 07:40	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/31/23 15:47	09/01/23 07:40	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/31/23 15:47	09/01/23 07:40	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/31/23 15:47	09/01/23 07:40	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/31/23 15:47	09/01/23 07:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*08/31/23 15:47*	*09/01/23 07:40*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*08/31/23 15:47*	*09/01/23 07:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/01/23 11:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**63.6**		50.2		mg/Kg			08/31/23 10:35	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-118 1'

Lab Sample ID: 890-5169-8
Matrix: Solid
Date Collected: 08/28/23 08:35
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/30/23 12:13	08/31/23 00:14	1
Diesel Range Organics (Over C10-C28)	**63.6**		50.2		mg/Kg		08/30/23 12:13	08/31/23 00:14	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/30/23 12:13	08/31/23 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*163*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 00:14*	*1*
o-Terphenyl	*155*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 00:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**351**		4.96		mg/Kg			08/30/23 23:30	1

Client Sample ID: BES23-119 1'

Lab Sample ID: 890-5169-9
Matrix: Solid
Date Collected: 08/28/23 08:40
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 08:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 08:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 08:01	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/31/23 15:47	09/01/23 08:01	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/31/23 15:47	09/01/23 08:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 08:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*08/31/23 15:47*	*09/01/23 08:01*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*08/31/23 15:47*	*09/01/23 08:01*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			09/01/23 11:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/30/23 12:13	08/31/23 00:35	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/30/23 12:13	08/31/23 00:35	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/30/23 12:13	08/31/23 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 00:35*	*1*
o-Terphenyl	*141*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 00:35*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-119 1'

Lab Sample ID: 890-5169-9
Matrix: Solid
Date Collected: 08/28/23 08:40
Date Received: 08/28/23 16:08
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	392		5.02		mg/Kg			08/30/23 23:37	1

Client Sample ID: BES23-120 1'

Lab Sample ID: 890-5169-10
Matrix: Solid
Date Collected: 08/28/23 08:45
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/31/23 15:47	09/01/23 08:48	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/31/23 15:47	09/01/23 08:48	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/31/23 15:47	09/01/23 08:48	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/31/23 15:47	09/01/23 08:48	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/31/23 15:47	09/01/23 08:48	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/31/23 15:47	09/01/23 08:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/31/23 15:47*	*09/01/23 08:48*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/31/23 15:47*	*09/01/23 08:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/01/23 11:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/30/23 12:13	08/31/23 00:56	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/30/23 12:13	08/31/23 00:56	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/30/23 12:13	08/31/23 00:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*146*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 00:56*	*1*
o-Terphenyl	*140*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 00:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	276		5.00		mg/Kg			08/30/23 23:43	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-121 1'

Lab Sample ID: 890-5169-11
Matrix: Solid
Date Collected: 08/28/23 08:50
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:47	09/01/23 09:09	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:47	09/01/23 09:09	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:47	09/01/23 09:09	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/31/23 15:47	09/01/23 09:09	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/31/23 15:47	09/01/23 09:09	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:47	09/01/23 09:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*08/31/23 15:47*	*09/01/23 09:09*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/31/23 15:47*	*09/01/23 09:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/01/23 11:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/30/23 12:13	08/31/23 01:39	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/30/23 12:13	08/31/23 01:39	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/30/23 12:13	08/31/23 01:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*161*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 01:39*	*1*
o-Terphenyl	*154*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 01:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**113**		4.95		mg/Kg			08/30/23 23:50	1

Client Sample ID: BES23-122 2'

Lab Sample ID: 890-5169-12
Matrix: Solid
Date Collected: 08/28/23 08:55
Date Received: 08/28/23 16:08
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/31/23 15:47	09/01/23 09:29	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/31/23 15:47	09/01/23 09:29	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/31/23 15:47	09/01/23 09:29	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/31/23 15:47	09/01/23 09:29	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/31/23 15:47	09/01/23 09:29	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/31/23 15:47	09/01/23 09:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/31/23 15:47*	*09/01/23 09:29*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Client Sample ID: BES23-122 2'

Date Collected: 08/28/23 08:55
Date Received: 08/28/23 16:08
Sample Depth: 1

Lab Sample ID: 890-5169-12

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*08/31/23 15:47*	*09/01/23 09:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/01/23 11:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/30/23 12:13	08/31/23 02:00	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/30/23 12:13	08/31/23 02:00	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/30/23 12:13	08/31/23 02:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*141*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 02:00*	*1*
o-Terphenyl	*136*	*S1+*	*70 - 130*	*08/30/23 12:13*	*08/31/23 02:00*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**149**		4.98		mg/Kg			08/30/23 23:57	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits) BFB1 (70-130)	DFBZ1 (70-130)
880-32709-A-8-D MS	Matrix Spike	88	89
880-32709-A-8-E MSD	Matrix Spike Duplicate	85	94
880-32754-A-1-D MS	Matrix Spike	118	167 S1+
880-32754-A-1-E MSD	Matrix Spike Duplicate	225 S1+	99
890-5169-1	BES23-111 1'	85	102
890-5169-2	BES23-112 1'	83	95
890-5169-3	BES23-113 1'	86	102
890-5169-4	BES23-114 1'	94	97
890-5169-5	BES23-115 1'	89	98
890-5169-6	BES23-116 1'	91	100
890-5169-7	BES23-117 1'	86	98
890-5169-8	BES23-118 1'	73	96
890-5169-9	BES23-119 1'	77	100
890-5169-10	BES23-120 1'	82	90
890-5169-11	BES23-121 1'	87	91
890-5169-12	BES23-122 2'	82	107
LCS 880-61615/1-A	Lab Control Sample	94	82
LCS 880-61676/1-A	Lab Control Sample	81	99
LCSD 880-61615/2-A	Lab Control Sample Dup	110	88
LCSD 880-61676/2-A	Lab Control Sample Dup	92	97
MB 880-61615/5-A	Method Blank	103	122
MB 880-61676/5-A	Method Blank	104	126

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits) 1CO1 (70-130)	OTPH1 (70-130)
890-5169-1	BES23-111 1'	147 S1+	138 S1+
890-5169-2	BES23-112 1'	157 S1+	155 S1+
890-5169-2 MS	BES23-112 1'	145 S1+	122
890-5169-2 MSD	BES23-112 1'	169 S1+	145 S1+
890-5169-3	BES23-113 1'	147 S1+	137 S1+
890-5169-4	BES23-114 1'	175 S1+	160 S1+
890-5169-5	BES23-115 1'	155 S1+	146 S1+
890-5169-6	BES23-116 1'	148 S1+	138 S1+
890-5169-7	BES23-117 1'	164 S1+	155 S1+
890-5169-8	BES23-118 1'	163 S1+	155 S1+
890-5169-9	BES23-119 1'	148 S1+	141 S1+
890-5169-10	BES23-120 1'	146 S1+	140 S1+
890-5169-11	BES23-121 1'	161 S1+	154 S1+
890-5169-12	BES23-122 2'	141 S1+	136 S1+
LCS 880-61566/2-A	Lab Control Sample	108	118
LCSD 880-61566/3-A	Lab Control Sample Dup	109	111
MB 880-61566/1-A	Method Blank	143 S1+	138 S1+

Surrogate Summary

Client: Vertex
Job ID: 890-5169-1
Project/Site: Carleton SWD

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61615/5-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 14:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 14:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 14:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/31/23 10:15	08/31/23 14:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/31/23 10:15	08/31/23 14:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 14:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*08/31/23 10:15*	*08/31/23 14:00*	*1*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*	*08/31/23 10:15*	*08/31/23 14:00*	*1*

Lab Sample ID: LCS 880-61615/1-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61615

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09376		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.09456		mg/Kg		95	70 - 130		
Toluene			0.100	0.1001		mg/Kg		100	70 - 130		
m-Xylene & p-Xylene			0.200	0.1787		mg/Kg		89	70 - 130		
o-Xylene			0.100	0.08770		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*

Lab Sample ID: LCSD 880-61615/2-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61615

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1038		mg/Kg		104	70 - 130	10	35
Ethylbenzene			0.100	0.1033		mg/Kg		103	70 - 130	9	35
Toluene			0.100	0.1025		mg/Kg		103	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2042		mg/Kg		102	70 - 130	13	35
o-Xylene			0.100	0.09841		mg/Kg		98	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: 880-32709-A-8-D MS
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61615

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.0996	0.1161		mg/Kg		117	70 - 130		
Ethylbenzene	<0.00198	U	0.0996	0.09507		mg/Kg		95	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

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

Lab Sample ID: 880-32709-A-8-D MS
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61615

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00198	U	0.0996	0.1084		mg/Kg		108	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.199	0.1813		mg/Kg		91	70 - 130
o-Xylene	<0.00198	U	0.0996	0.09230		mg/Kg		93	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: 880-32709-A-8-E MSD
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61615

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.101	0.1039		mg/Kg		103	70 - 130	11	35
Ethylbenzene	<0.00198	U	0.101	0.09050		mg/Kg		90	70 - 130	5	35
Toluene	<0.00198	U	0.101	0.09527		mg/Kg		94	70 - 130	13	35
m-Xylene & p-Xylene	<0.00396	U	0.202	0.1824		mg/Kg		90	70 - 130	1	35
o-Xylene	<0.00198	U	0.101	0.08307		mg/Kg		82	70 - 130	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-61676/5-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61676

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 01:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*08/31/23 15:47*	*09/01/23 01:37*	*1*
1,4-Difluorobenzene (Surr)	*126*		*70 - 130*	*08/31/23 15:47*	*09/01/23 01:37*	*1*

Lab Sample ID: LCS 880-61676/1-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61676

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08766		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.07820		mg/Kg		78	70 - 130
Toluene	0.100	0.09048		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1585		mg/Kg		79	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

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

Lab Sample ID: LCS 880-61676/1-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61676

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.07601		mg/Kg		76	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-61676/2-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61676

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09768		mg/Kg		98	70 - 130	11	35
Ethylbenzene			0.100	0.08518		mg/Kg		85	70 - 130	9	35
Toluene			0.100	0.09327		mg/Kg		93	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1840		mg/Kg		92	70 - 130	15	35
o-Xylene			0.100	0.08899		mg/Kg		89	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-32754-A-1-D MS
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61676

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U F2	0.0996	0.1202		mg/Kg		121	70 - 130		
Ethylbenzene	<0.00198	U F1 F2	0.0996	0.04393	F1	mg/Kg		44	70 - 130		
Toluene	<0.00198	U F1	0.0996	0.04880	F1	mg/Kg		49	70 - 130		
m-Xylene & p-Xylene	<0.00396	U F1 F2	0.199	0.1238	F1	mg/Kg		62	70 - 130		
o-Xylene	<0.00198	U F1 F2	0.0996	0.06325	F1	mg/Kg		64	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*167*	*S1+*	*70 - 130*

Lab Sample ID: 880-32754-A-1-E MSD
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61676

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U F2	0.100	0.07856	F2	mg/Kg		78	70 - 130	42	35
Ethylbenzene	<0.00198	U F1 F2	0.100	0.06366	F1 F2	mg/Kg		64	70 - 130	37	35
Toluene	<0.00198	U F1	0.100	0.04205	F1	mg/Kg		42	70 - 130	15	35
m-Xylene & p-Xylene	<0.00396	U F1 F2	0.200	0.2163	F2	mg/Kg		108	70 - 130	54	35
o-Xylene	<0.00198	U F1 F2	0.100	0.1199	F2	mg/Kg		120	70 - 130	62	35

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

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

Lab Sample ID: 880-32754-A-1-E MSD
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61676

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	225	S1+	70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-61566/1-A
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61566

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/30/23 12:13	08/30/23 19:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/23 12:13	08/30/23 19:55	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/23 12:13	08/30/23 19:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	143	S1+	70 - 130	08/30/23 12:13	08/30/23 19:55	1
o-Terphenyl	138	S1+	70 - 130	08/30/23 12:13	08/30/23 19:55	1

Lab Sample ID: LCS 880-61566/2-A
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61566

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	935.6		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	1000	944.2		mg/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: LCSD 880-61566/3-A
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61566

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	898.4		mg/Kg		90	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	888.4		mg/Kg		89	70 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	111		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

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

Lab Sample ID: 890-5169-2 MS
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: BES23-112 1'
Prep Type: Total/NA
Prep Batch: 61566

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	992	944.9		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	992	1375	F1	mg/Kg		136	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*145*	*S1+*	*70 - 130*
o-Terphenyl	*122*		*70 - 130*

Lab Sample ID: 890-5169-2 MSD
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: BES23-112 1'
Prep Type: Total/NA
Prep Batch: 61566

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	992	1101		mg/Kg		109	70 - 130	15	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	992	1630	F1	mg/Kg		162	70 - 130	17	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*169*	*S1+*	*70 - 130*
o-Terphenyl	*145*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-61530/1-A
Matrix: Solid
Analysis Batch: 61598

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/30/23 22:11	1

Lab Sample ID: LCS 880-61530/2-A
Matrix: Solid
Analysis Batch: 61598

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	255.2		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-61530/3-A
Matrix: Solid
Analysis Batch: 61598

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	249.7		mg/Kg		100	90 - 110	2	20

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-5169-3 MS
Matrix: Solid
Analysis Batch: 61598

Client Sample ID: BES23-113 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	321		250	575.5		mg/Kg		102	90 - 110

Lab Sample ID: 890-5169-3 MSD
Matrix: Solid
Analysis Batch: 61598

Client Sample ID: BES23-113 1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	321		250	579.0		mg/Kg		103	90 - 110	1	20

Lab Sample ID: MB 880-61537/1-A
Matrix: Solid
Analysis Batch: 61599

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/30/23 17:43	1

Lab Sample ID: LCS 880-61537/2-A
Matrix: Solid
Analysis Batch: 61599

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	230.2		mg/Kg		92	90 - 110

Lab Sample ID: LCSD 880-61537/3-A
Matrix: Solid
Analysis Batch: 61599

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	222.7	*-	mg/Kg		89	90 - 110	3	20

Lab Sample ID: 890-5163-A-25-B MS
Matrix: Solid
Analysis Batch: 61599

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	218	*-	250	472.2		mg/Kg		102	90 - 110

Lab Sample ID: 890-5163-A-25-C MSD
Matrix: Solid
Analysis Batch: 61599

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	218	*-	250	470.3		mg/Kg		101	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

GC VOA

Prep Batch: 61615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-1	BES23-111 1'	Total/NA	Solid	5035	
890-5169-2	BES23-112 1'	Total/NA	Solid	5035	
890-5169-3	BES23-113 1'	Total/NA	Solid	5035	
890-5169-4	BES23-114 1'	Total/NA	Solid	5035	
890-5169-5	BES23-115 1'	Total/NA	Solid	5035	
890-5169-6	BES23-116 1'	Total/NA	Solid	5035	
890-5169-7	BES23-117 1'	Total/NA	Solid	5035	
MB 880-61615/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61615/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61615/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32709-A-8-D MS	Matrix Spike	Total/NA	Solid	5035	
880-32709-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 61634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-1	BES23-111 1'	Total/NA	Solid	8021B	61615
890-5169-2	BES23-112 1'	Total/NA	Solid	8021B	61615
890-5169-3	BES23-113 1'	Total/NA	Solid	8021B	61615
890-5169-4	BES23-114 1'	Total/NA	Solid	8021B	61615
890-5169-5	BES23-115 1'	Total/NA	Solid	8021B	61615
890-5169-6	BES23-116 1'	Total/NA	Solid	8021B	61615
890-5169-7	BES23-117 1'	Total/NA	Solid	8021B	61615
890-5169-8	BES23-118 1'	Total/NA	Solid	8021B	61676
890-5169-9	BES23-119 1'	Total/NA	Solid	8021B	61676
890-5169-10	BES23-120 1'	Total/NA	Solid	8021B	61676
890-5169-11	BES23-121 1'	Total/NA	Solid	8021B	61676
890-5169-12	BES23-122 2'	Total/NA	Solid	8021B	61676
MB 880-61615/5-A	Method Blank	Total/NA	Solid	8021B	61615
MB 880-61676/5-A	Method Blank	Total/NA	Solid	8021B	61676
LCS 880-61615/1-A	Lab Control Sample	Total/NA	Solid	8021B	61615
LCS 880-61676/1-A	Lab Control Sample	Total/NA	Solid	8021B	61676
LCSD 880-61615/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61615
LCSD 880-61676/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61676
880-32709-A-8-D MS	Matrix Spike	Total/NA	Solid	8021B	61615
880-32709-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61615
880-32754-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	61676
880-32754-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61676

Prep Batch: 61676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-8	BES23-118 1'	Total/NA	Solid	5035	
890-5169-9	BES23-119 1'	Total/NA	Solid	5035	
890-5169-10	BES23-120 1'	Total/NA	Solid	5035	
890-5169-11	BES23-121 1'	Total/NA	Solid	5035	
890-5169-12	BES23-122 2'	Total/NA	Solid	5035	
MB 880-61676/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61676/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61676/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32754-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-32754-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

GC VOA

Analysis Batch: 61739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-1	BES23-111 1'	Total/NA	Solid	Total BTEX	
890-5169-2	BES23-112 1'	Total/NA	Solid	Total BTEX	
890-5169-3	BES23-113 1'	Total/NA	Solid	Total BTEX	
890-5169-4	BES23-114 1'	Total/NA	Solid	Total BTEX	
890-5169-5	BES23-115 1'	Total/NA	Solid	Total BTEX	
890-5169-6	BES23-116 1'	Total/NA	Solid	Total BTEX	
890-5169-7	BES23-117 1'	Total/NA	Solid	Total BTEX	
890-5169-8	BES23-118 1'	Total/NA	Solid	Total BTEX	
890-5169-9	BES23-119 1'	Total/NA	Solid	Total BTEX	
890-5169-10	BES23-120 1'	Total/NA	Solid	Total BTEX	
890-5169-11	BES23-121 1'	Total/NA	Solid	Total BTEX	
890-5169-12	BES23-122 2'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 61504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-1	BES23-111 1'	Total/NA	Solid	8015B NM	61566
890-5169-2	BES23-112 1'	Total/NA	Solid	8015B NM	61566
890-5169-3	BES23-113 1'	Total/NA	Solid	8015B NM	61566
890-5169-4	BES23-114 1'	Total/NA	Solid	8015B NM	61566
890-5169-5	BES23-115 1'	Total/NA	Solid	8015B NM	61566
890-5169-6	BES23-116 1'	Total/NA	Solid	8015B NM	61566
890-5169-7	BES23-117 1'	Total/NA	Solid	8015B NM	61566
890-5169-8	BES23-118 1'	Total/NA	Solid	8015B NM	61566
890-5169-9	BES23-119 1'	Total/NA	Solid	8015B NM	61566
890-5169-10	BES23-120 1'	Total/NA	Solid	8015B NM	61566
890-5169-11	BES23-121 1'	Total/NA	Solid	8015B NM	61566
890-5169-12	BES23-122 2'	Total/NA	Solid	8015B NM	61566
MB 880-61566/1-A	Method Blank	Total/NA	Solid	8015B NM	61566
LCS 880-61566/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61566
LCSD 880-61566/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61566
890-5169-2 MS	BES23-112 1'	Total/NA	Solid	8015B NM	61566
890-5169-2 MSD	BES23-112 1'	Total/NA	Solid	8015B NM	61566

Prep Batch: 61566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-1	BES23-111 1'	Total/NA	Solid	8015NM Prep	
890-5169-2	BES23-112 1'	Total/NA	Solid	8015NM Prep	
890-5169-3	BES23-113 1'	Total/NA	Solid	8015NM Prep	
890-5169-4	BES23-114 1'	Total/NA	Solid	8015NM Prep	
890-5169-5	BES23-115 1'	Total/NA	Solid	8015NM Prep	
890-5169-6	BES23-116 1'	Total/NA	Solid	8015NM Prep	
890-5169-7	BES23-117 1'	Total/NA	Solid	8015NM Prep	
890-5169-8	BES23-118 1'	Total/NA	Solid	8015NM Prep	
890-5169-9	BES23-119 1'	Total/NA	Solid	8015NM Prep	
890-5169-10	BES23-120 1'	Total/NA	Solid	8015NM Prep	
890-5169-11	BES23-121 1'	Total/NA	Solid	8015NM Prep	
890-5169-12	BES23-122 2'	Total/NA	Solid	8015NM Prep	
MB 880-61566/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61566/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

GC Semi VOA (Continued)

Prep Batch: 61566 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-61566/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5169-2 MS	BES23-112 1'	Total/NA	Solid	8015NM Prep	
890-5169-2 MSD	BES23-112 1'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-1	BES23-111 1'	Total/NA	Solid	8015 NM	
890-5169-2	BES23-112 1'	Total/NA	Solid	8015 NM	
890-5169-3	BES23-113 1'	Total/NA	Solid	8015 NM	
890-5169-4	BES23-114 1'	Total/NA	Solid	8015 NM	
890-5169-5	BES23-115 1'	Total/NA	Solid	8015 NM	
890-5169-6	BES23-116 1'	Total/NA	Solid	8015 NM	
890-5169-7	BES23-117 1'	Total/NA	Solid	8015 NM	
890-5169-8	BES23-118 1'	Total/NA	Solid	8015 NM	
890-5169-9	BES23-119 1'	Total/NA	Solid	8015 NM	
890-5169-10	BES23-120 1'	Total/NA	Solid	8015 NM	
890-5169-11	BES23-121 1'	Total/NA	Solid	8015 NM	
890-5169-12	BES23-122 2'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 61530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-3	BES23-113 1'	Soluble	Solid	DI Leach	
890-5169-4	BES23-114 1'	Soluble	Solid	DI Leach	
890-5169-5	BES23-115 1'	Soluble	Solid	DI Leach	
890-5169-6	BES23-116 1'	Soluble	Solid	DI Leach	
890-5169-7	BES23-117 1'	Soluble	Solid	DI Leach	
890-5169-8	BES23-118 1'	Soluble	Solid	DI Leach	
890-5169-9	BES23-119 1'	Soluble	Solid	DI Leach	
890-5169-10	BES23-120 1'	Soluble	Solid	DI Leach	
890-5169-11	BES23-121 1'	Soluble	Solid	DI Leach	
890-5169-12	BES23-122 2'	Soluble	Solid	DI Leach	
MB 880-61530/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61530/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61530/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5169-3 MS	BES23-113 1'	Soluble	Solid	DI Leach	
890-5169-3 MSD	BES23-113 1'	Soluble	Solid	DI Leach	

Leach Batch: 61537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-1	BES23-111 1'	Soluble	Solid	DI Leach	
890-5169-2	BES23-112 1'	Soluble	Solid	DI Leach	
MB 880-61537/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61537/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61537/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5163-A-25-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5163-A-25-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

HPLC/IC

Analysis Batch: 61598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-3	BES23-113 1'	Soluble	Solid	300.0	61530
890-5169-4	BES23-114 1'	Soluble	Solid	300.0	61530
890-5169-5	BES23-115 1'	Soluble	Solid	300.0	61530
890-5169-6	BES23-116 1'	Soluble	Solid	300.0	61530
890-5169-7	BES23-117 1'	Soluble	Solid	300.0	61530
890-5169-8	BES23-118 1'	Soluble	Solid	300.0	61530
890-5169-9	BES23-119 1'	Soluble	Solid	300.0	61530
890-5169-10	BES23-120 1'	Soluble	Solid	300.0	61530
890-5169-11	BES23-121 1'	Soluble	Solid	300.0	61530
890-5169-12	BES23-122 2'	Soluble	Solid	300.0	61530
MB 880-61530/1-A	Method Blank	Soluble	Solid	300.0	61530
LCS 880-61530/2-A	Lab Control Sample	Soluble	Solid	300.0	61530
LCSD 880-61530/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61530
890-5169-3 MS	BES23-113 1'	Soluble	Solid	300.0	61530
890-5169-3 MSD	BES23-113 1'	Soluble	Solid	300.0	61530

Analysis Batch: 61599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5169-1	BES23-111 1'	Soluble	Solid	300.0	61537
890-5169-2	BES23-112 1'	Soluble	Solid	300.0	61537
MB 880-61537/1-A	Method Blank	Soluble	Solid	300.0	61537
LCS 880-61537/2-A	Lab Control Sample	Soluble	Solid	300.0	61537
LCSD 880-61537/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61537
890-5163-A-25-B MS	Matrix Spike	Soluble	Solid	300.0	61537
890-5163-A-25-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	61537

Lab Chronicle

Client: Vertex
Job ID: 890-5169-1
Project/Site: Carleton SWD

Client Sample ID: BES23-111 1'
Lab Sample ID: 890-5169-1
Date Collected: 08/28/23 08:00
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61615	08/31/23 10:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	08/31/23 20:25	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 10:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 22:06	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	61537	08/30/23 10:59	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61599	08/30/23 20:21	CH	EET MID

Client Sample ID: BES23-112 1'
Lab Sample ID: 890-5169-2
Date Collected: 08/28/23 08:05
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61615	08/31/23 10:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	08/31/23 20:45	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 10:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 21:01	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61537	08/30/23 10:59	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61599	08/30/23 20:27	CH	EET MID

Client Sample ID: BES23-113 1'
Lab Sample ID: 890-5169-3
Date Collected: 08/28/23 08:10
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61615	08/31/23 10:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	08/31/23 21:06	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 10:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 22:27	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 22:30	CH	EET MID

Client Sample ID: BES23-114 1'
Lab Sample ID: 890-5169-4
Date Collected: 08/28/23 08:15
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61615	08/31/23 10:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	08/31/23 21:26	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 10:55	AJ	EET MID

Lab Chronicle

Client: Vertex
Job ID: 890-5169-1
Project/Site: Carleton SWD

Client Sample ID: BES23-114 1'
Lab Sample ID: 890-5169-4
Date Collected: 08/28/23 08:15
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 22:49	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 22:50	CH	EET MID

Client Sample ID: BES23-115 1'
Lab Sample ID: 890-5169-5
Date Collected: 08/28/23 08:20
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	61615	08/31/23 10:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	08/31/23 21:47	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 10:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 23:10	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 22:57	CH	EET MID

Client Sample ID: BES23-116 1'
Lab Sample ID: 890-5169-6
Date Collected: 08/28/23 08:25
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61615	08/31/23 10:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	08/31/23 22:07	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 10:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 23:31	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 23:04	CH	EET MID

Client Sample ID: BES23-117 1'
Lab Sample ID: 890-5169-7
Date Collected: 08/28/23 08:30
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61615	08/31/23 10:15	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	08/31/23 22:27	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 10:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 23:53	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Job ID: 890-5169-1
Project/Site: Carleton SWD

Client Sample ID: BES23-117 1'
Lab Sample ID: 890-5169-7
Date Collected: 08/28/23 08:30
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 23:10	CH	EET MID

Client Sample ID: BES23-118 1'
Lab Sample ID: 890-5169-8
Date Collected: 08/28/23 08:35
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	61676	08/31/23 15:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	09/01/23 07:40	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 11:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/31/23 00:14	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 23:30	CH	EET MID

Client Sample ID: BES23-119 1'
Lab Sample ID: 890-5169-9
Date Collected: 08/28/23 08:40
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	61676	08/31/23 15:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	09/01/23 08:01	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 11:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/31/23 00:35	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 23:37	CH	EET MID

Client Sample ID: BES23-120 1'
Lab Sample ID: 890-5169-10
Date Collected: 08/28/23 08:45
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61676	08/31/23 15:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	09/01/23 08:48	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 11:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/31/23 00:56	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 23:43	CH	EET MID

Lab Chronicle

Client: Vertex
Job ID: 890-5169-1
Project/Site: Carleton SWD

Client Sample ID: BES23-121 1'
Lab Sample ID: 890-5169-11
Date Collected: 08/28/23 08:50
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61676	08/31/23 15:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	09/01/23 09:09	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 11:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/31/23 01:39	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 23:50	CH	EET MID

Client Sample ID: BES23-122 2'
Lab Sample ID: 890-5169-12
Date Collected: 08/28/23 08:55
Matrix: Solid
Date Received: 08/28/23 16:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61676	08/31/23 15:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	09/01/23 09:29	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61739	09/01/23 11:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61657	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	61566	08/30/23 12:13	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/31/23 02:00	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61530	08/30/23 10:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61598	08/30/23 23:57	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Job ID: 890-5169-1
Project/Site: Carleton SWD

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5169-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5169-1	BES23-111 1'	Solid	08/28/23 08:00	08/28/23 16:08	1
890-5169-2	BES23-112 1'	Solid	08/28/23 08:05	08/28/23 16:08	1
890-5169-3	BES23-113 1'	Solid	08/28/23 08:10	08/28/23 16:08	1
890-5169-4	BES23-114 1'	Solid	08/28/23 08:15	08/28/23 16:08	1
890-5169-5	BES23-115 1'	Solid	08/28/23 08:20	08/28/23 16:08	1
890-5169-6	BES23-116 1'	Solid	08/28/23 08:25	08/28/23 16:08	1
890-5169-7	BES23-117 1'	Solid	08/28/23 08:30	08/28/23 16:08	1
890-5169-8	BES23-118 1'	Solid	08/28/23 08:35	08/28/23 16:08	1
890-5169-9	BES23-119 1'	Solid	08/28/23 08:40	08/28/23 16:08	1
890-5169-10	BES23-120 1'	Solid	08/28/23 08:45	08/28/23 16:08	1
890-5169-11	BES23-121 1'	Solid	08/28/23 08:50	08/28/23 16:08	1
890-5169-12	BES23-122 2'	Solid	08/28/23 08:55	08/28/23 16:08	1

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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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

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

Project Name:	Carleton SWD	Turn Around	
Project Number:		☐ Routine ☒ Rush 48hrs	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	12.4
Total Containers:		Corrected Temperature:	12.2

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	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH	Cl	Sample Comments
BES23-111 1'	Soil	8/28/23	8:00		5			X	X	X	
BES23-112 1'			8:05								
BES23-113 1'			8:10								
BES23-114 1'			8:15								
BES23-115 1'			8:20								
BES23-116 1'			8:25								
BES23-117 1'			8:30								
BES23-118 1'			8:35								
BES23-119 1'			8:40								
BES23-120 1'	↓	↓	8:45		↓			↓	↓	↓	

890-5169 Chain of Custody

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 Hunter Klein		8-23-23 1408	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM
Released to Imaging: 3/19/2024 9:29:09 AM

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9/1/2023

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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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

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

Project Name:		Turn Around	
Project Number:		☐ Routine ☑ Rush 48hr	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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_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	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH	Cl	Sample Comments
BES23-121 2'	Soil	8/28/23	8:50		C			X	X	X	
BES23-122 2'	↓	↓	8:55		↓			X	X	X	

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 Hunter Klein	Dave Cl	8.28.23 1608	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5169-1
SDG Number:

Login Number: 5169
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5169-1
SDG Number:

Login Number: 5169
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 08/30/23 10:58 AM

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.	True	
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	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/7/2023 10:29:14 AM

JOB DESCRIPTION

Carleton SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-5193-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

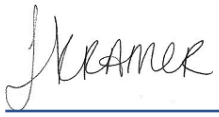
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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9/7/2023 10:29:14 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-5193-1
SDG: 23E-03626

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Definitions/Glossary

Client: Vertex Job ID: 890-5193-1
Project/Site: Carleton SWD SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Job ID: 890-5193-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5193-1

Receipt
The samples were received on 9/1/2023 3:06 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: WES23-01 0-3 (890-5193-1), WES23-02 0-3 (890-5193-2), WES23-03 0-3 (890-5193-3), WES23-04 0-1 (890-5193-4), WES23-05 0-1 (890-5193-5), WES23-06 0-1 (890-5193-6), WES23-07 0-1 (890-5193-7), WES23-08 1-4 (890-5193-8), WES23-09 1-4 (890-5193-9), WES23-10 1-4 (890-5193-10), WES23-11 1-4 (890-5193-11), WES23-12 0-4 (890-5193-12), WES23-13 1-4 (890-5193-13), WES23-14 1-4 (890-5193-14), WES23-15 1-4 (890-5193-15), WES23-16 0-1 (890-5193-16), WES23-17 0-1 (890-5193-17), WES23-18 0-1 (890-5193-18), WES23-19 0-2 (890-5193-19) and WES23-20 1-2 (890-5193-20).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: WES23-15 1-4 (890-5193-15). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: WES23-04 0-1 (890-5193-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: WES23-09 1-4 (890-5193-9) and WES23-11 1-4 (890-5193-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61930 and analytical batch 880-61883 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: WES23-05 0-1 (890-5193-5), WES23-06 0-1 (890-5193-6), WES23-07 0-1 (890-5193-7), WES23-08 1-4 (890-5193-8), WES23-09 1-4 (890-5193-9) and WES23-10 1-4 (890-5193-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: WES23-11 1-4 (890-5193-11), WES23-12 0-4 (890-5193-12), WES23-13 1-4 (890-5193-13), WES23-14 1-4 (890-5193-14), WES23-15 1-4 (890-5193-15) and WES23-16 0-1 (890-5193-16). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-32833-A-13-B MDLV) and (880-32833-A-14-B MDLV). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61932 and analytical batch 880-61885 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: WES23-17 0-1 (890-5193-17). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: WES23-18 0-1 (890-5193-18), WES23-19 0-2 (890-5193-19) and WES23-20 1-2 (890-5193-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-32833-A-15-B MDLV) and

Case Narrative

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Job ID: 890-5193-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

(880-32833-A-16-B MDLV). Evidence of matrix interferences is not obvious.

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: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-61892 and analytical batch 880-61939 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control 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.

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-01 0-3

Lab Sample ID: 890-5193-1
Matrix: Solid
Date Collected: 09/01/23 08:00
Date Received: 09/01/23 15:06
Sample Depth: 0-3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 12:47	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 12:47	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 12:47	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 12:47	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 12:47	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 12:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*09/06/23 08:59*	*09/06/23 12:47*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*09/06/23 08:59*	*09/06/23 12:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/06/23 14:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			09/07/23 10:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		09/06/23 11:00	09/06/23 13:22	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		09/06/23 11:00	09/06/23 13:22	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		09/06/23 11:00	09/06/23 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*09/06/23 11:00*	*09/06/23 13:22*	*1*
o-Terphenyl	*109*		*70 - 130*	*09/06/23 11:00*	*09/06/23 13:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**157**	**F1**	5.00		mg/Kg			09/06/23 12:05	1

Client Sample ID: WES23-02 0-3

Lab Sample ID: 890-5193-2
Matrix: Solid
Date Collected: 09/01/23 08:05
Date Received: 09/01/23 15:06
Sample Depth: 0-3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:59	09/06/23 13:08	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:59	09/06/23 13:08	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:59	09/06/23 13:08	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/23 08:59	09/06/23 13:08	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/23 08:59	09/06/23 13:08	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:59	09/06/23 13:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*09/06/23 08:59*	*09/06/23 13:08*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-02 0-3

Date Collected: 09/01/23 08:05
Date Received: 09/01/23 15:06
Sample Depth: 0-3

Lab Sample ID: 890-5193-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*09/06/23 08:59*	*09/06/23 13:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/06/23 14:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			09/07/23 10:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		09/06/23 11:00	09/06/23 13:46	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		09/06/23 11:00	09/06/23 13:46	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		09/06/23 11:00	09/06/23 13:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*09/06/23 11:00*	*09/06/23 13:46*	*1*
o-Terphenyl	*110*		*70 - 130*	*09/06/23 11:00*	*09/06/23 13:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**77.5**		4.95		mg/Kg			09/06/23 12:21	1

Client Sample ID: WES23-03 0-3

Date Collected: 09/01/23 08:10
Date Received: 09/01/23 15:06
Sample Depth: 0-3

Lab Sample ID: 890-5193-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/06/23 08:59	09/06/23 13:28	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/06/23 08:59	09/06/23 13:28	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/06/23 08:59	09/06/23 13:28	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		09/06/23 08:59	09/06/23 13:28	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		09/06/23 08:59	09/06/23 13:28	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/06/23 08:59	09/06/23 13:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*09/06/23 08:59*	*09/06/23 13:28*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*09/06/23 08:59*	*09/06/23 13:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/06/23 14:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			09/07/23 10:07	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-03 0-3

Lab Sample ID: 890-5193-3
Matrix: Solid
Date Collected: 09/01/23 08:10
Date Received: 09/01/23 15:06
Sample Depth: 0-3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 14:08	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 14:08	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 14:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*09/06/23 11:00*	*09/06/23 14:08*	*1*
o-Terphenyl	*108*		*70 - 130*	*09/06/23 11:00*	*09/06/23 14:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**141**		4.98		mg/Kg			09/06/23 12:27	1

Client Sample ID: WES23-04 0-1

Lab Sample ID: 890-5193-4
Matrix: Solid
Date Collected: 09/01/23 08:15
Date Received: 09/01/23 15:06
Sample Depth: 0-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 13:49	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 13:49	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 13:49	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 13:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 13:49	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*182*	*S1+*	*70 - 130*	*09/06/23 08:59*	*09/06/23 13:49*	*1*
1,4-Difluorobenzene (Surr)	*126*		*70 - 130*	*09/06/23 08:59*	*09/06/23 13:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/06/23 14:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			09/07/23 10:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 12:17	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 12:17	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 12:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*09/06/23 11:00*	*09/06/23 12:17*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/06/23 11:00*	*09/06/23 12:17*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-04 0-1

Lab Sample ID: 890-5193-4
Matrix: Solid
Date Collected: 09/01/23 08:15
Date Received: 09/01/23 15:06
Sample Depth: 0-1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	132		4.96		mg/Kg			09/06/23 12:32	1

Client Sample ID: WES23-05 0-1

Lab Sample ID: 890-5193-5
Matrix: Solid
Date Collected: 09/01/23 08:20
Date Received: 09/01/23 15:06
Sample Depth: 0-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 14:09	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 14:09	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 14:09	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 14:09	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 14:09	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 14:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*09/06/23 08:59*	*09/06/23 14:09*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*09/06/23 08:59*	*09/06/23 14:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/06/23 14:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			09/07/23 10:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		09/06/23 11:00	09/06/23 14:31	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		09/06/23 11:00	09/06/23 14:31	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		09/06/23 11:00	09/06/23 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 14:31*	*1*
o-Terphenyl	*127*		*70 - 130*	*09/06/23 11:00*	*09/06/23 14:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	138		5.04		mg/Kg			09/06/23 12:38	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-06 0-1

Lab Sample ID: 890-5193-6
Matrix: Solid
Date Collected: 09/01/23 08:25
Date Received: 09/01/23 15:06
Sample Depth: 0-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:59	09/06/23 14:30	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:59	09/06/23 14:30	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:59	09/06/23 14:30	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		09/06/23 08:59	09/06/23 14:30	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		09/06/23 08:59	09/06/23 14:30	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:59	09/06/23 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*09/06/23 08:59*	*09/06/23 14:30*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*09/06/23 08:59*	*09/06/23 14:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			09/07/23 11:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			09/07/23 10:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		09/06/23 11:00	09/06/23 14:53	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		09/06/23 11:00	09/06/23 14:53	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		09/06/23 11:00	09/06/23 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 14:53*	*1*
o-Terphenyl	*126*		*70 - 130*	*09/06/23 11:00*	*09/06/23 14:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**69.8**		5.00		mg/Kg			09/06/23 12:54	1

Client Sample ID: WES23-07 0-1

Lab Sample ID: 890-5193-7
Matrix: Solid
Date Collected: 09/01/23 08:30
Date Received: 09/01/23 15:06
Sample Depth: 0-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 14:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 14:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 14:50	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/06/23 08:59	09/06/23 14:50	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/06/23 08:59	09/06/23 14:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*09/06/23 08:59*	*09/06/23 14:50*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-07 0-1

Lab Sample ID: 890-5193-7
Matrix: Solid
Date Collected: 09/01/23 08:30
Date Received: 09/01/23 15:06
Sample Depth: 0-1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/06/23 08:59*	*09/06/23 14:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/07/23 11:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			09/07/23 10:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		09/06/23 11:00	09/06/23 15:15	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		09/06/23 11:00	09/06/23 15:15	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		09/06/23 11:00	09/06/23 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*140*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 15:15*	*1*
o-Terphenyl	*124*		*70 - 130*	*09/06/23 11:00*	*09/06/23 15:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**134**		4.97		mg/Kg			09/06/23 13:00	1

Client Sample ID: WES23-08 1-4

Lab Sample ID: 890-5193-8
Matrix: Solid
Date Collected: 09/01/23 08:35
Date Received: 09/01/23 15:06
Sample Depth: 1-4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 15:11	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 15:11	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 15:11	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 15:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 15:11	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 15:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*09/06/23 08:59*	*09/06/23 15:11*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*09/06/23 08:59*	*09/06/23 15:11*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/07/23 11:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			09/07/23 10:07	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-08 1-4

Lab Sample ID: 890-5193-8
Matrix: Solid
Date Collected: 09/01/23 08:35
Date Received: 09/01/23 15:06
Sample Depth: 1-4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		09/06/23 11:00	09/06/23 15:37	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		09/06/23 11:00	09/06/23 15:37	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		09/06/23 11:00	09/06/23 15:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 15:37*	*1*
o-Terphenyl	*118*		*70 - 130*	*09/06/23 11:00*	*09/06/23 15:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**53.5**		4.95		mg/Kg			09/06/23 13:05	1

Client Sample ID: WES23-09 1-4

Lab Sample ID: 890-5193-9
Matrix: Solid
Date Collected: 09/01/23 08:40
Date Received: 09/01/23 15:06
Sample Depth: 1-4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 17:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 17:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 17:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 17:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/23 08:59	09/06/23 17:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:59	09/06/23 17:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*	*09/06/23 08:59*	*09/06/23 17:03*	*1*
1,4-Difluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*09/06/23 08:59*	*09/06/23 17:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/07/23 11:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/07/23 10:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/06/23 11:00	09/06/23 15:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/06/23 11:00	09/06/23 15:59	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/06/23 11:00	09/06/23 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*152*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 15:59*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 15:59*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-09 1-4

Lab Sample ID: 890-5193-9
Matrix: Solid
Date Collected: 09/01/23 08:40
Date Received: 09/01/23 15:06
Sample Depth: 1-4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	74.2		4.96		mg/Kg			09/06/23 13:10	1

Client Sample ID: WES23-10 1-4

Lab Sample ID: 890-5193-10
Matrix: Solid
Date Collected: 09/01/23 08:45
Date Received: 09/01/23 15:06
Sample Depth: 1-4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 17:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 17:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 17:23	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/23 08:59	09/06/23 17:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/23 08:59	09/06/23 17:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*09/06/23 08:59*	*09/06/23 17:23*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*09/06/23 08:59*	*09/06/23 17:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/07/23 11:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			09/07/23 10:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		09/06/23 11:00	09/06/23 16:21	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/06/23 11:00	09/06/23 16:21	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/06/23 11:00	09/06/23 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*145*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 16:21*	*1*
o-Terphenyl	*127*		*70 - 130*	*09/06/23 11:00*	*09/06/23 16:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	128		5.01		mg/Kg			09/06/23 13:16	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-11 1-4

Lab Sample ID: 890-5193-11
Matrix: Solid
Date Collected: 09/01/23 08:50
Date Received: 09/01/23 15:06
Sample Depth: 1-4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:59	09/06/23 17:44	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:59	09/06/23 17:44	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:59	09/06/23 17:44	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/23 08:59	09/06/23 17:44	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/23 08:59	09/06/23 17:44	1
o-Xylene	**0.00227**		0.00201		mg/Kg		09/06/23 08:59	09/06/23 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*319*	*S1+*	*70 - 130*	*09/06/23 08:59*	*09/06/23 17:44*	*1*
1,4-Difluorobenzene (Surr)	*172*	*S1+*	*70 - 130*	*09/06/23 08:59*	*09/06/23 17:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/07/23 11:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			09/07/23 10:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		09/06/23 11:00	09/06/23 17:05	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		09/06/23 11:00	09/06/23 17:05	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		09/06/23 11:00	09/06/23 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*141*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 17:05*	*1*
o-Terphenyl	*122*		*70 - 130*	*09/06/23 11:00*	*09/06/23 17:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**89.8**		4.95		mg/Kg			09/06/23 13:21	1

Client Sample ID: WES23-12 0-4

Lab Sample ID: 890-5193-12
Matrix: Solid
Date Collected: 09/01/23 08:55
Date Received: 09/01/23 15:06
Sample Depth: 0-4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 12:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 12:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 12:25	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/06/23 08:31	09/06/23 12:25	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/06/23 08:31	09/06/23 12:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*09/06/23 08:31*	*09/06/23 12:25*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-12 0-4

Lab Sample ID: 890-5193-12
Matrix: Solid
Date Collected: 09/01/23 08:55
Date Received: 09/01/23 15:06
Sample Depth: 0-4

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*09/06/23 08:31*	*09/06/23 12:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/06/23 14:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			09/07/23 10:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		09/06/23 11:00	09/06/23 17:28	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		09/06/23 11:00	09/06/23 17:28	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		09/06/23 11:00	09/06/23 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 17:28*	*1*
o-Terphenyl	*129*		*70 - 130*	*09/06/23 11:00*	*09/06/23 17:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**114**		4.99		mg/Kg			09/06/23 13:38	1

Client Sample ID: WES23-13 1-4

Lab Sample ID: 890-5193-13
Matrix: Solid
Date Collected: 09/01/23 09:00
Date Received: 09/01/23 15:06
Sample Depth: 1-4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:31	09/06/23 12:46	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:31	09/06/23 12:46	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:31	09/06/23 12:46	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/06/23 08:31	09/06/23 12:46	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/06/23 08:31	09/06/23 12:46	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:31	09/06/23 12:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*09/06/23 08:31*	*09/06/23 12:46*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/06/23 08:31*	*09/06/23 12:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/06/23 14:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**53.4**		50.5		mg/Kg			09/07/23 10:07	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-13 1-4

Lab Sample ID: 890-5193-13
Matrix: Solid
Date Collected: 09/01/23 09:00
Date Received: 09/01/23 15:06
Sample Depth: 1-4

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 17:50	1
Diesel Range Organics (Over C10-C28)	**53.4**		50.5		mg/Kg		09/06/23 11:00	09/06/23 17:50	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*166*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 17:50*	*1*
o-Terphenyl	*144*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 17:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**215**		5.02		mg/Kg			09/06/23 13:44	1

Client Sample ID: WES23-14 1-4

Lab Sample ID: 890-5193-14
Matrix: Solid
Date Collected: 09/01/23 09:05
Date Received: 09/01/23 15:06
Sample Depth: 1-4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:31	09/06/23 13:07	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:31	09/06/23 13:07	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:31	09/06/23 13:07	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/23 08:31	09/06/23 13:07	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/23 08:31	09/06/23 13:07	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:31	09/06/23 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*09/06/23 08:31*	*09/06/23 13:07*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*09/06/23 08:31*	*09/06/23 13:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/06/23 14:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			09/07/23 10:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 18:12	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 18:12	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		09/06/23 11:00	09/06/23 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 18:12*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 18:12*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-14 1-4

Lab Sample ID: 890-5193-14
Matrix: Solid
Date Collected: 09/01/23 09:05
Date Received: 09/01/23 15:06
Sample Depth: 1-4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	76.1		4.97		mg/Kg			09/06/23 14:00	1

Client Sample ID: WES23-15 1-4

Lab Sample ID: 890-5193-15
Matrix: Solid
Date Collected: 09/01/23 09:10
Date Received: 09/01/23 15:06
Sample Depth: 1-4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 13:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 13:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 13:27	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		09/06/23 08:31	09/06/23 13:27	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		09/06/23 08:31	09/06/23 13:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*09/06/23 08:31*	*09/06/23 13:27*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*09/06/23 08:31*	*09/06/23 13:27*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			09/06/23 14:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			09/07/23 10:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/06/23 11:00	09/06/23 18:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/06/23 11:00	09/06/23 18:34	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/06/23 11:00	09/06/23 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 18:34*	*1*
o-Terphenyl	*121*		*70 - 130*	*09/06/23 11:00*	*09/06/23 18:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	103		5.05		mg/Kg			09/06/23 14:06	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-16 0-1

Lab Sample ID: 890-5193-16
Matrix: Solid
Date Collected: 09/01/23 09:15
Date Received: 09/01/23 15:06
Sample Depth: 0-1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 13:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 13:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 13:48	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/06/23 08:31	09/06/23 13:48	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/06/23 08:31	09/06/23 13:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 13:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*09/06/23 08:31*	*09/06/23 13:48*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*09/06/23 08:31*	*09/06/23 13:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/06/23 14:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/07/23 10:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/06/23 11:00	09/06/23 18:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/06/23 11:00	09/06/23 18:56	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/06/23 11:00	09/06/23 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*147*	*S1+*	*70 - 130*	*09/06/23 11:00*	*09/06/23 18:56*	*1*
o-Terphenyl	*130*		*70 - 130*	*09/06/23 11:00*	*09/06/23 18:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**111**		4.97		mg/Kg			09/06/23 14:11	1

Client Sample ID: WES23-17 0-1

Lab Sample ID: 890-5193-17
Matrix: Solid
Date Collected: 09/01/23 09:20
Date Received: 09/01/23 15:06
Sample Depth: 0-1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:31	09/06/23 14:09	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:31	09/06/23 14:09	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:31	09/06/23 14:09	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/06/23 08:31	09/06/23 14:09	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/06/23 08:31	09/06/23 14:09	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/06/23 08:31	09/06/23 14:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*09/06/23 08:31*	*09/06/23 14:09*	*1*

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-17 0-1

Lab Sample ID: 890-5193-17
Matrix: Solid
Date Collected: 09/01/23 09:20
Date Received: 09/01/23 15:06
Sample Depth: 0-1

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/06/23 08:31*	*09/06/23 14:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/06/23 14:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			09/07/23 10:24	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		09/06/23 11:07	09/06/23 16:21	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		09/06/23 11:07	09/06/23 16:21	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		09/06/23 11:07	09/06/23 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*09/06/23 11:07*	*09/06/23 16:21*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*09/06/23 11:07*	*09/06/23 16:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**75.8**		5.00		mg/Kg			09/06/23 14:17	1

Client Sample ID: WES23-18 0-1

Lab Sample ID: 890-5193-18
Matrix: Solid
Date Collected: 09/01/23 09:25
Date Received: 09/01/23 15:06
Sample Depth: 0-1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:31	09/06/23 14:30	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:31	09/06/23 14:30	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:31	09/06/23 14:30	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/23 08:31	09/06/23 14:30	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/23 08:31	09/06/23 14:30	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/06/23 08:31	09/06/23 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*09/06/23 08:31*	*09/06/23 14:30*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*09/06/23 08:31*	*09/06/23 14:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/07/23 10:57	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			09/07/23 10:24	1

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Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-18 0-1

Lab Sample ID: 890-5193-18
Matrix: Solid
Date Collected: 09/01/23 09:25
Date Received: 09/01/23 15:06
Sample Depth: 0-1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		09/06/23 11:07	09/06/23 17:05	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		09/06/23 11:07	09/06/23 17:05	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		09/06/23 11:07	09/06/23 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*09/06/23 11:07*	*09/06/23 17:05*	*1*
o-Terphenyl	*139*	*S1+*	*70 - 130*	*09/06/23 11:07*	*09/06/23 17:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**140**		4.95		mg/Kg			09/06/23 14:22	1

Client Sample ID: WES23-19 0-2

Lab Sample ID: 890-5193-19
Matrix: Solid
Date Collected: 09/01/23 09:30
Date Received: 09/01/23 15:06
Sample Depth: 0-2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/06/23 08:31	09/06/23 14:51	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/06/23 08:31	09/06/23 14:51	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/06/23 08:31	09/06/23 14:51	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/06/23 08:31	09/06/23 14:51	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/06/23 08:31	09/06/23 14:51	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/06/23 08:31	09/06/23 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*09/06/23 08:31*	*09/06/23 14:51*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*09/06/23 08:31*	*09/06/23 14:51*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/07/23 10:57	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			09/07/23 10:24	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		09/06/23 11:07	09/06/23 17:28	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		09/06/23 11:07	09/06/23 17:28	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		09/06/23 11:07	09/06/23 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*151*	*S1+*	*70 - 130*	*09/06/23 11:07*	*09/06/23 17:28*	*1*
o-Terphenyl	*165*	*S1+*	*70 - 130*	*09/06/23 11:07*	*09/06/23 17:28*	*1*

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-19 0-2

Lab Sample ID: 890-5193-19
Matrix: Solid
Date Collected: 09/01/23 09:30
Date Received: 09/01/23 15:06
Sample Depth: 0-2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	145		4.96		mg/Kg			09/06/23 14:28	1

Client Sample ID: WES23-20 1-2

Lab Sample ID: 890-5193-20
Matrix: Solid
Date Collected: 09/01/23 09:35
Date Received: 09/01/23 15:06
Sample Depth: 1-2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:31	09/06/23 17:31	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:31	09/06/23 17:31	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:31	09/06/23 17:31	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/23 08:31	09/06/23 17:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/23 08:31	09/06/23 17:31	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/06/23 08:31	09/06/23 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*09/06/23 08:31*	*09/06/23 17:31*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/06/23 08:31*	*09/06/23 17:31*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/07/23 10:57	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			09/07/23 10:24	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		09/06/23 11:07	09/06/23 17:50	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		09/06/23 11:07	09/06/23 17:50	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		09/06/23 11:07	09/06/23 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*144*	*S1+*	*70 - 130*	*09/06/23 11:07*	*09/06/23 17:50*	*1*
o-Terphenyl	*156*	*S1+*	*70 - 130*	*09/06/23 11:07*	*09/06/23 17:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	156		5.04		mg/Kg			09/06/23 14:33	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-32875-A-1-A MS	Matrix Spike	91	96
880-32875-A-1-B MSD	Matrix Spike Duplicate	90	90
890-5189-A-2-D MS	Matrix Spike	110	100
890-5189-A-2-E MSD	Matrix Spike Duplicate	111	100
890-5193-1	WES23-01 0-3	87	92
890-5193-2	WES23-02 0-3	89	95
890-5193-3	WES23-03 0-3	91	97
890-5193-4	WES23-04 0-1	182 S1+	126
890-5193-5	WES23-05 0-1	96	96
890-5193-6	WES23-06 0-1	88	102
890-5193-7	WES23-07 0-1	97	98
890-5193-8	WES23-08 1-4	91	103
890-5193-9	WES23-09 1-4	133 S1+	137 S1+
890-5193-10	WES23-10 1-4	92	119
890-5193-11	WES23-11 1-4	319 S1+	172 S1+
890-5193-12	WES23-12 0-4	84	110
890-5193-13	WES23-13 1-4	92	108
890-5193-14	WES23-14 1-4	83	111
890-5193-15	WES23-15 1-4	62 S1-	96
890-5193-16	WES23-16 0-1	89	117
890-5193-17	WES23-17 0-1	85	108
890-5193-18	WES23-18 0-1	87	116
890-5193-19	WES23-19 0-2	85	114
890-5193-20	WES23-20 1-2	94	99
LCS 880-61899/1-A	Lab Control Sample	97	102
LCS 880-61907/1-A	Lab Control Sample	96	91
LCSD 880-61899/2-A	Lab Control Sample Dup	107	94
LCSD 880-61907/2-A	Lab Control Sample Dup	92	89
MB 880-61899/5-A	Method Blank	78	92
MB 880-61907/5-A	Method Blank	95	113

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-32816-A-4-D MS	Matrix Spike	129	125
880-32816-A-4-E MSD	Matrix Spike Duplicate	119	113
890-5193-1	WES23-01 0-3	123	109
890-5193-2	WES23-02 0-3	125	110
890-5193-3	WES23-03 0-3	123	108
890-5193-4	WES23-04 0-1	126	111
890-5193-4 MS	WES23-04 0-1	125	96
890-5193-4 MSD	WES23-04 0-1	126	96
890-5193-5	WES23-05 0-1	142 S1+	127

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-5193-6	WES23-06 0-1	142 S1+	126										
890-5193-7	WES23-07 0-1	140 S1+	124										
890-5193-8	WES23-08 1-4	133 S1+	118										
890-5193-9	WES23-09 1-4	152 S1+	132 S1+										
890-5193-10	WES23-10 1-4	145 S1+	127										
890-5193-11	WES23-11 1-4	141 S1+	122										
890-5193-12	WES23-12 0-4	148 S1+	129										
890-5193-13	WES23-13 1-4	166 S1+	144 S1+										
890-5193-14	WES23-14 1-4	148 S1+	131 S1+										
890-5193-15	WES23-15 1-4	135 S1+	121										
890-5193-16	WES23-16 0-1	147 S1+	130										
890-5193-17	WES23-17 0-1	135 S1+	146 S1+										
890-5193-18	WES23-18 0-1	127	139 S1+										
890-5193-19	WES23-19 0-2	151 S1+	165 S1+										
890-5193-20	WES23-20 1-2	144 S1+	156 S1+										
LCS 880-61930/2-A	Lab Control Sample	109	108										
LCS 880-61932/2-A	Lab Control Sample	85	92										
LCSD 880-61930/3-A	Lab Control Sample Dup	125	119										
LCSD 880-61932/3-A	Lab Control Sample Dup	101	112										
MB 880-61930/1-A	Method Blank	163 S1+	145 S1+										
MB 880-61932/1-A	Method Blank	146 S1+	165 S1+										

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61899/5-A
Matrix: Solid
Analysis Batch: 61898

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61899

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 11:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 11:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 11:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/23 08:31	09/06/23 11:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/23 08:31	09/06/23 11:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:31	09/06/23 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*09/06/23 08:31*	*09/06/23 11:21*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*09/06/23 08:31*	*09/06/23 11:21*	*1*

Lab Sample ID: LCS 880-61899/1-A
Matrix: Solid
Analysis Batch: 61898

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61899

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1055		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.1021		mg/Kg		102	70 - 130
Toluene	0.100	0.1026		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	0.200	0.2074		mg/Kg		104	70 - 130
o-Xylene	0.100	0.09836		mg/Kg		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-61899/2-A
Matrix: Solid
Analysis Batch: 61898

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61899

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09332		mg/Kg		93	70 - 130	12	35
Ethylbenzene	0.100	0.1068		mg/Kg		107	70 - 130	4	35
Toluene	0.100	0.1018		mg/Kg		102	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2299		mg/Kg		115	70 - 130	10	35
o-Xylene	0.100	0.1079		mg/Kg		108	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-5189-A-2-D MS
Matrix: Solid
Analysis Batch: 61898

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61899

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.0996	0.09806		mg/Kg		98	70 - 130
Ethylbenzene	<0.00198	U	0.0996	0.1153		mg/Kg		116	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-5189-A-2-D MS
Matrix: Solid
Analysis Batch: 61898

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61899

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00198	U	0.0996	0.1078		mg/Kg		108	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.199	0.2417		mg/Kg		121	70 - 130
o-Xylene	<0.00198	U	0.0996	0.1143		mg/Kg		115	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-5189-A-2-E MSD
Matrix: Solid
Analysis Batch: 61898

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61899

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0994	0.09366		mg/Kg		94	70 - 130	5	35
Ethylbenzene	<0.00198	U	0.0994	0.1126		mg/Kg		113	70 - 130	2	35
Toluene	<0.00198	U	0.0994	0.1039		mg/Kg		104	70 - 130	4	35
m-Xylene & p-Xylene	<0.00396	U	0.199	0.2392		mg/Kg		120	70 - 130	1	35
o-Xylene	<0.00198	U	0.0994	0.1136		mg/Kg		114	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 880-61907/5-A
Matrix: Solid
Analysis Batch: 61897

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61907

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 11:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 11:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 11:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/23 08:59	09/06/23 11:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/23 08:59	09/06/23 11:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/23 08:59	09/06/23 11:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*09/06/23 08:59*	*09/06/23 11:37*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*09/06/23 08:59*	*09/06/23 11:37*	*1*

Lab Sample ID: LCS 880-61907/1-A
Matrix: Solid
Analysis Batch: 61897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61907

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1029		mg/Kg		103	70 - 130
Ethylbenzene	0.100	0.09215		mg/Kg		92	70 - 130
Toluene	0.100	0.09281		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	0.200	0.1976		mg/Kg		99	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-61907/1-A
Matrix: Solid
Analysis Batch: 61897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61907

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.09442		mg/Kg		94	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: LCSD 880-61907/2-A
Matrix: Solid
Analysis Batch: 61897

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61907

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1057		mg/Kg		106	70 - 130	3	35
Ethylbenzene			0.100	0.09436		mg/Kg		94	70 - 130	2	35
Toluene			0.100	0.09832		mg/Kg		98	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.1898		mg/Kg		95	70 - 130	4	35
o-Xylene			0.100	0.08908		mg/Kg		89	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: 880-32875-A-1-A MS
Matrix: Solid
Analysis Batch: 61897

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61907

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.0998	0.09124		mg/Kg		91	70 - 130		
Ethylbenzene	<0.00198	U	0.0998	0.07466		mg/Kg		75	70 - 130		
Toluene	<0.00198	U	0.0998	0.08315		mg/Kg		83	70 - 130		
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1596		mg/Kg		80	70 - 130		
o-Xylene	<0.00198	U	0.0998	0.07136		mg/Kg		71	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-32875-A-1-B MSD
Matrix: Solid
Analysis Batch: 61897

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61907

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.101	0.09760		mg/Kg		97	70 - 130	7	35
Ethylbenzene	<0.00198	U	0.101	0.07523		mg/Kg		75	70 - 130	1	35
Toluene	<0.00198	U	0.101	0.08583		mg/Kg		85	70 - 130	3	35
m-Xylene & p-Xylene	<0.00396	U	0.202	0.1612		mg/Kg		80	70 - 130	1	35
o-Xylene	<0.00198	U	0.101	0.07589		mg/Kg		75	70 - 130	6	35

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-32875-A-1-B MSD
Matrix: Solid
Analysis Batch: 61897

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61907

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-61930/1-A
Matrix: Solid
Analysis Batch: 61883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/06/23 08:00	09/06/23 08:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/06/23 08:00	09/06/23 08:46	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/06/23 08:00	09/06/23 08:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*163*	*S1+*	*70 - 130*	*09/06/23 08:00*	*09/06/23 08:46*	*1*
o-Terphenyl	*145*	*S1+*	*70 - 130*	*09/06/23 08:00*	*09/06/23 08:46*	*1*

Lab Sample ID: LCS 880-61930/2-A
Matrix: Solid
Analysis Batch: 61883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61930

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1080		mg/Kg		108	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	897.9		mg/Kg		90	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: LCSD 880-61930/3-A
Matrix: Solid
Analysis Batch: 61883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61930

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1030		mg/Kg		103	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	968.4		mg/Kg		97	70 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	*125*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-5193-4 MS
Matrix: Solid
Analysis Batch: 61883

Client Sample ID: WES23-04 0-1
Prep Type: Total/NA
Prep Batch: 61930

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: 890-5193-4 MSD
Matrix: Solid
Analysis Batch: 61883

Client Sample ID: WES23-04 0-1
Prep Type: Total/NA
Prep Batch: 61930

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	126		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: MB 880-61932/1-A
Matrix: Solid
Analysis Batch: 61885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/06/23 08:00	09/06/23 08:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/06/23 08:00	09/06/23 08:46	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/06/23 08:00	09/06/23 08:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	146	S1+	70 - 130	09/06/23 08:00	09/06/23 08:46	1
o-Terphenyl	165	S1+	70 - 130	09/06/23 08:00	09/06/23 08:46	1

Lab Sample ID: LCS 880-61932/2-A
Matrix: Solid
Analysis Batch: 61885

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	991.3		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	816.5		mg/Kg		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: LCSD 880-61932/3-A
Matrix: Solid
Analysis Batch: 61885

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61932

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	852.9		mg/Kg		85	70 - 130	15	20
Diesel Range Organics (Over C10-C28)	1000	986.1		mg/Kg		99	70 - 130	19	20

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	112		70 - 130

Lab Sample ID: 880-32816-A-4-D MS
Matrix: Solid
Analysis Batch: 61885

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61932

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	129		70 - 130
o-Terphenyl	125		70 - 130

Lab Sample ID: 880-32816-A-4-E MSD
Matrix: Solid
Analysis Batch: 61885

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 61932

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	113		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-61892/1-A
Matrix: Solid
Analysis Batch: 61939

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/06/23 11:38	1

Lab Sample ID: LCS 880-61892/2-A
Matrix: Solid
Analysis Batch: 61939

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	244.7		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-61892/3-A
Matrix: Solid
Analysis Batch: 61939

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	243.2		mg/Kg		97	90 - 110	1	20

Lab Sample ID: 890-5193-1 MS
Matrix: Solid
Analysis Batch: 61939

Client Sample ID: WES23-01 0-3
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	157	F1	250	329.3	F1	mg/Kg		69	90 - 110		

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-5193-1 MSD
Matrix: Solid
Analysis Batch: 61939

Client Sample ID: WES23-01 0-3
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	157	F1	250	329.2	F1	mg/Kg		69	90 - 110	0	20

Lab Sample ID: 890-5193-11 MS
Matrix: Solid
Analysis Batch: 61939

Client Sample ID: WES23-11 1-4
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	89.8		248	334.4		mg/Kg		99	90 - 110

Lab Sample ID: 890-5193-11 MSD
Matrix: Solid
Analysis Batch: 61939

Client Sample ID: WES23-11 1-4
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	89.8		248	334.4		mg/Kg		99	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

GC VOA

Analysis Batch: 61897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-1	WES23-01 0-3	Total/NA	Solid	8021B	61907
890-5193-2	WES23-02 0-3	Total/NA	Solid	8021B	61907
890-5193-3	WES23-03 0-3	Total/NA	Solid	8021B	61907
890-5193-4	WES23-04 0-1	Total/NA	Solid	8021B	61907
890-5193-5	WES23-05 0-1	Total/NA	Solid	8021B	61907
890-5193-6	WES23-06 0-1	Total/NA	Solid	8021B	61907
890-5193-7	WES23-07 0-1	Total/NA	Solid	8021B	61907
890-5193-8	WES23-08 1-4	Total/NA	Solid	8021B	61907
890-5193-9	WES23-09 1-4	Total/NA	Solid	8021B	61907
890-5193-10	WES23-10 1-4	Total/NA	Solid	8021B	61907
890-5193-11	WES23-11 1-4	Total/NA	Solid	8021B	61907
MB 880-61907/5-A	Method Blank	Total/NA	Solid	8021B	61907
LCS 880-61907/1-A	Lab Control Sample	Total/NA	Solid	8021B	61907
LCSD 880-61907/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61907
880-32875-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	61907
880-32875-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61907

Analysis Batch: 61898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-12	WES23-12 0-4	Total/NA	Solid	8021B	61899
890-5193-13	WES23-13 1-4	Total/NA	Solid	8021B	61899
890-5193-14	WES23-14 1-4	Total/NA	Solid	8021B	61899
890-5193-15	WES23-15 1-4	Total/NA	Solid	8021B	61899
890-5193-16	WES23-16 0-1	Total/NA	Solid	8021B	61899
890-5193-17	WES23-17 0-1	Total/NA	Solid	8021B	61899
890-5193-18	WES23-18 0-1	Total/NA	Solid	8021B	61899
890-5193-19	WES23-19 0-2	Total/NA	Solid	8021B	61899
890-5193-20	WES23-20 1-2	Total/NA	Solid	8021B	61899
MB 880-61899/5-A	Method Blank	Total/NA	Solid	8021B	61899
LCS 880-61899/1-A	Lab Control Sample	Total/NA	Solid	8021B	61899
LCSD 880-61899/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61899
890-5189-A-2-D MS	Matrix Spike	Total/NA	Solid	8021B	61899
890-5189-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61899

Prep Batch: 61899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-12	WES23-12 0-4	Total/NA	Solid	5035	
890-5193-13	WES23-13 1-4	Total/NA	Solid	5035	
890-5193-14	WES23-14 1-4	Total/NA	Solid	5035	
890-5193-15	WES23-15 1-4	Total/NA	Solid	5035	
890-5193-16	WES23-16 0-1	Total/NA	Solid	5035	
890-5193-17	WES23-17 0-1	Total/NA	Solid	5035	
890-5193-18	WES23-18 0-1	Total/NA	Solid	5035	
890-5193-19	WES23-19 0-2	Total/NA	Solid	5035	
890-5193-20	WES23-20 1-2	Total/NA	Solid	5035	
MB 880-61899/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61899/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61899/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5189-A-2-D MS	Matrix Spike	Total/NA	Solid	5035	
890-5189-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

GC VOA

Prep Batch: 61907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-1	WES23-01 0-3	Total/NA	Solid	5035	
890-5193-2	WES23-02 0-3	Total/NA	Solid	5035	
890-5193-3	WES23-03 0-3	Total/NA	Solid	5035	
890-5193-4	WES23-04 0-1	Total/NA	Solid	5035	
890-5193-5	WES23-05 0-1	Total/NA	Solid	5035	
890-5193-6	WES23-06 0-1	Total/NA	Solid	5035	
890-5193-7	WES23-07 0-1	Total/NA	Solid	5035	
890-5193-8	WES23-08 1-4	Total/NA	Solid	5035	
890-5193-9	WES23-09 1-4	Total/NA	Solid	5035	
890-5193-10	WES23-10 1-4	Total/NA	Solid	5035	
890-5193-11	WES23-11 1-4	Total/NA	Solid	5035	
MB 880-61907/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61907/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61907/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32875-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-32875-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 61952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-1	WES23-01 0-3	Total/NA	Solid	Total BTEX	
890-5193-2	WES23-02 0-3	Total/NA	Solid	Total BTEX	
890-5193-3	WES23-03 0-3	Total/NA	Solid	Total BTEX	
890-5193-4	WES23-04 0-1	Total/NA	Solid	Total BTEX	
890-5193-5	WES23-05 0-1	Total/NA	Solid	Total BTEX	
890-5193-6	WES23-06 0-1	Total/NA	Solid	Total BTEX	
890-5193-7	WES23-07 0-1	Total/NA	Solid	Total BTEX	
890-5193-8	WES23-08 1-4	Total/NA	Solid	Total BTEX	
890-5193-9	WES23-09 1-4	Total/NA	Solid	Total BTEX	
890-5193-10	WES23-10 1-4	Total/NA	Solid	Total BTEX	
890-5193-11	WES23-11 1-4	Total/NA	Solid	Total BTEX	
890-5193-12	WES23-12 0-4	Total/NA	Solid	Total BTEX	
890-5193-13	WES23-13 1-4	Total/NA	Solid	Total BTEX	
890-5193-14	WES23-14 1-4	Total/NA	Solid	Total BTEX	
890-5193-15	WES23-15 1-4	Total/NA	Solid	Total BTEX	
890-5193-16	WES23-16 0-1	Total/NA	Solid	Total BTEX	
890-5193-17	WES23-17 0-1	Total/NA	Solid	Total BTEX	
890-5193-18	WES23-18 0-1	Total/NA	Solid	Total BTEX	
890-5193-19	WES23-19 0-2	Total/NA	Solid	Total BTEX	
890-5193-20	WES23-20 1-2	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 61883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-1	WES23-01 0-3	Total/NA	Solid	8015B NM	61930
890-5193-2	WES23-02 0-3	Total/NA	Solid	8015B NM	61930
890-5193-3	WES23-03 0-3	Total/NA	Solid	8015B NM	61930
890-5193-4	WES23-04 0-1	Total/NA	Solid	8015B NM	61930
890-5193-5	WES23-05 0-1	Total/NA	Solid	8015B NM	61930
890-5193-6	WES23-06 0-1	Total/NA	Solid	8015B NM	61930
890-5193-7	WES23-07 0-1	Total/NA	Solid	8015B NM	61930

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

GC Semi VOA (Continued)

Analysis Batch: 61883 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-8	WES23-08 1-4	Total/NA	Solid	8015B NM	61930
890-5193-9	WES23-09 1-4	Total/NA	Solid	8015B NM	61930
890-5193-10	WES23-10 1-4	Total/NA	Solid	8015B NM	61930
890-5193-11	WES23-11 1-4	Total/NA	Solid	8015B NM	61930
890-5193-12	WES23-12 0-4	Total/NA	Solid	8015B NM	61930
890-5193-13	WES23-13 1-4	Total/NA	Solid	8015B NM	61930
890-5193-14	WES23-14 1-4	Total/NA	Solid	8015B NM	61930
890-5193-15	WES23-15 1-4	Total/NA	Solid	8015B NM	61930
890-5193-16	WES23-16 0-1	Total/NA	Solid	8015B NM	61930
MB 880-61930/1-A	Method Blank	Total/NA	Solid	8015B NM	61930
LCS 880-61930/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61930
LCSD 880-61930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61930
890-5193-4 MS	WES23-04 0-1	Total/NA	Solid	8015B NM	61930
890-5193-4 MSD	WES23-04 0-1	Total/NA	Solid	8015B NM	61930

Analysis Batch: 61885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-17	WES23-17 0-1	Total/NA	Solid	8015B NM	61932
890-5193-18	WES23-18 0-1	Total/NA	Solid	8015B NM	61932
890-5193-19	WES23-19 0-2	Total/NA	Solid	8015B NM	61932
890-5193-20	WES23-20 1-2	Total/NA	Solid	8015B NM	61932
MB 880-61932/1-A	Method Blank	Total/NA	Solid	8015B NM	61932
LCS 880-61932/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61932
LCSD 880-61932/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61932
880-32816-A-4-D MS	Matrix Spike	Total/NA	Solid	8015B NM	61932
880-32816-A-4-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	61932

Prep Batch: 61930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-1	WES23-01 0-3	Total/NA	Solid	8015NM Prep	
890-5193-2	WES23-02 0-3	Total/NA	Solid	8015NM Prep	
890-5193-3	WES23-03 0-3	Total/NA	Solid	8015NM Prep	
890-5193-4	WES23-04 0-1	Total/NA	Solid	8015NM Prep	
890-5193-5	WES23-05 0-1	Total/NA	Solid	8015NM Prep	
890-5193-6	WES23-06 0-1	Total/NA	Solid	8015NM Prep	
890-5193-7	WES23-07 0-1	Total/NA	Solid	8015NM Prep	
890-5193-8	WES23-08 1-4	Total/NA	Solid	8015NM Prep	
890-5193-9	WES23-09 1-4	Total/NA	Solid	8015NM Prep	
890-5193-10	WES23-10 1-4	Total/NA	Solid	8015NM Prep	
890-5193-11	WES23-11 1-4	Total/NA	Solid	8015NM Prep	
890-5193-12	WES23-12 0-4	Total/NA	Solid	8015NM Prep	
890-5193-13	WES23-13 1-4	Total/NA	Solid	8015NM Prep	
890-5193-14	WES23-14 1-4	Total/NA	Solid	8015NM Prep	
890-5193-15	WES23-15 1-4	Total/NA	Solid	8015NM Prep	
890-5193-16	WES23-16 0-1	Total/NA	Solid	8015NM Prep	
MB 880-61930/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61930/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5193-4 MS	WES23-04 0-1	Total/NA	Solid	8015NM Prep	
890-5193-4 MSD	WES23-04 0-1	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

GC Semi VOA

Prep Batch: 61932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-17	WES23-17 0-1	Total/NA	Solid	8015NM Prep	
890-5193-18	WES23-18 0-1	Total/NA	Solid	8015NM Prep	
890-5193-19	WES23-19 0-2	Total/NA	Solid	8015NM Prep	
890-5193-20	WES23-20 1-2	Total/NA	Solid	8015NM Prep	
MB 880-61932/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61932/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61932/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-32816-A-4-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-32816-A-4-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-1	WES23-01 0-3	Total/NA	Solid	8015 NM	
890-5193-2	WES23-02 0-3	Total/NA	Solid	8015 NM	
890-5193-3	WES23-03 0-3	Total/NA	Solid	8015 NM	
890-5193-4	WES23-04 0-1	Total/NA	Solid	8015 NM	
890-5193-5	WES23-05 0-1	Total/NA	Solid	8015 NM	
890-5193-6	WES23-06 0-1	Total/NA	Solid	8015 NM	
890-5193-7	WES23-07 0-1	Total/NA	Solid	8015 NM	
890-5193-8	WES23-08 1-4	Total/NA	Solid	8015 NM	
890-5193-9	WES23-09 1-4	Total/NA	Solid	8015 NM	
890-5193-10	WES23-10 1-4	Total/NA	Solid	8015 NM	
890-5193-11	WES23-11 1-4	Total/NA	Solid	8015 NM	
890-5193-12	WES23-12 0-4	Total/NA	Solid	8015 NM	
890-5193-13	WES23-13 1-4	Total/NA	Solid	8015 NM	
890-5193-14	WES23-14 1-4	Total/NA	Solid	8015 NM	
890-5193-15	WES23-15 1-4	Total/NA	Solid	8015 NM	
890-5193-16	WES23-16 0-1	Total/NA	Solid	8015 NM	
890-5193-17	WES23-17 0-1	Total/NA	Solid	8015 NM	
890-5193-18	WES23-18 0-1	Total/NA	Solid	8015 NM	
890-5193-19	WES23-19 0-2	Total/NA	Solid	8015 NM	
890-5193-20	WES23-20 1-2	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 61892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-1	WES23-01 0-3	Soluble	Solid	DI Leach	
890-5193-2	WES23-02 0-3	Soluble	Solid	DI Leach	
890-5193-3	WES23-03 0-3	Soluble	Solid	DI Leach	
890-5193-4	WES23-04 0-1	Soluble	Solid	DI Leach	
890-5193-5	WES23-05 0-1	Soluble	Solid	DI Leach	
890-5193-6	WES23-06 0-1	Soluble	Solid	DI Leach	
890-5193-7	WES23-07 0-1	Soluble	Solid	DI Leach	
890-5193-8	WES23-08 1-4	Soluble	Solid	DI Leach	
890-5193-9	WES23-09 1-4	Soluble	Solid	DI Leach	
890-5193-10	WES23-10 1-4	Soluble	Solid	DI Leach	
890-5193-11	WES23-11 1-4	Soluble	Solid	DI Leach	
890-5193-12	WES23-12 0-4	Soluble	Solid	DI Leach	
890-5193-13	WES23-13 1-4	Soluble	Solid	DI Leach	
890-5193-14	WES23-14 1-4	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

HPLC/IC (Continued)

Leach Batch: 61892 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-15	WES23-15 1-4	Soluble	Solid	DI Leach	
890-5193-16	WES23-16 0-1	Soluble	Solid	DI Leach	
890-5193-17	WES23-17 0-1	Soluble	Solid	DI Leach	
890-5193-18	WES23-18 0-1	Soluble	Solid	DI Leach	
890-5193-19	WES23-19 0-2	Soluble	Solid	DI Leach	
890-5193-20	WES23-20 1-2	Soluble	Solid	DI Leach	
MB 880-61892/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61892/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61892/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5193-1 MS	WES23-01 0-3	Soluble	Solid	DI Leach	
890-5193-1 MSD	WES23-01 0-3	Soluble	Solid	DI Leach	
890-5193-11 MS	WES23-11 1-4	Soluble	Solid	DI Leach	
890-5193-11 MSD	WES23-11 1-4	Soluble	Solid	DI Leach	

Analysis Batch: 61939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5193-1	WES23-01 0-3	Soluble	Solid	300.0	61892
890-5193-2	WES23-02 0-3	Soluble	Solid	300.0	61892
890-5193-3	WES23-03 0-3	Soluble	Solid	300.0	61892
890-5193-4	WES23-04 0-1	Soluble	Solid	300.0	61892
890-5193-5	WES23-05 0-1	Soluble	Solid	300.0	61892
890-5193-6	WES23-06 0-1	Soluble	Solid	300.0	61892
890-5193-7	WES23-07 0-1	Soluble	Solid	300.0	61892
890-5193-8	WES23-08 1-4	Soluble	Solid	300.0	61892
890-5193-9	WES23-09 1-4	Soluble	Solid	300.0	61892
890-5193-10	WES23-10 1-4	Soluble	Solid	300.0	61892
890-5193-11	WES23-11 1-4	Soluble	Solid	300.0	61892
890-5193-12	WES23-12 0-4	Soluble	Solid	300.0	61892
890-5193-13	WES23-13 1-4	Soluble	Solid	300.0	61892
890-5193-14	WES23-14 1-4	Soluble	Solid	300.0	61892
890-5193-15	WES23-15 1-4	Soluble	Solid	300.0	61892
890-5193-16	WES23-16 0-1	Soluble	Solid	300.0	61892
890-5193-17	WES23-17 0-1	Soluble	Solid	300.0	61892
890-5193-18	WES23-18 0-1	Soluble	Solid	300.0	61892
890-5193-19	WES23-19 0-2	Soluble	Solid	300.0	61892
890-5193-20	WES23-20 1-2	Soluble	Solid	300.0	61892
MB 880-61892/1-A	Method Blank	Soluble	Solid	300.0	61892
LCS 880-61892/2-A	Lab Control Sample	Soluble	Solid	300.0	61892
LCSD 880-61892/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61892
890-5193-1 MS	WES23-01 0-3	Soluble	Solid	300.0	61892
890-5193-1 MSD	WES23-01 0-3	Soluble	Solid	300.0	61892
890-5193-11 MS	WES23-11 1-4	Soluble	Solid	300.0	61892
890-5193-11 MSD	WES23-11 1-4	Soluble	Solid	300.0	61892

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-01 0-3
Date Collected: 09/01/23 08:00
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 12:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 13:22	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 12:05	CH	EET MID

Client Sample ID: WES23-02 0-3
Date Collected: 09/01/23 08:05
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 13:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 13:46	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 12:21	CH	EET MID

Client Sample ID: WES23-03 0-3
Date Collected: 09/01/23 08:10
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 13:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 14:08	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 12:27	CH	EET MID

Client Sample ID: WES23-04 0-1
Date Collected: 09/01/23 08:15
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 13:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:38	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-04 0-1
Date Collected: 09/01/23 08:15
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 12:17	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 12:32	CH	EET MID

Client Sample ID: WES23-05 0-1
Date Collected: 09/01/23 08:20
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 14:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 14:31	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 12:38	CH	EET MID

Client Sample ID: WES23-06 0-1
Date Collected: 09/01/23 08:25
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 14:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/07/23 11:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 14:53	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 12:54	CH	EET MID

Client Sample ID: WES23-07 0-1
Date Collected: 09/01/23 08:30
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 14:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/07/23 11:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 15:15	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-07 0-1
Date Collected: 09/01/23 08:30
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 13:00	CH	EET MID

Client Sample ID: WES23-08 1-4
Date Collected: 09/01/23 08:35
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 15:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/07/23 11:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 15:37	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 13:05	CH	EET MID

Client Sample ID: WES23-09 1-4
Date Collected: 09/01/23 08:40
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 17:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/07/23 11:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 15:59	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 13:10	CH	EET MID

Client Sample ID: WES23-10 1-4
Date Collected: 09/01/23 08:45
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 17:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/07/23 11:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 16:21	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 13:16	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-11 1-4
Lab Sample ID: 890-5193-11
Date Collected: 09/01/23 08:50
Matrix: Solid
Date Received: 09/01/23 15:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61907	09/06/23 08:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61897	09/06/23 17:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/07/23 11:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 17:05	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 13:21	CH	EET MID

Client Sample ID: WES23-12 0-4
Lab Sample ID: 890-5193-12
Date Collected: 09/01/23 08:55
Matrix: Solid
Date Received: 09/01/23 15:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61899	09/06/23 08:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61898	09/06/23 12:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 17:28	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 13:38	CH	EET MID

Client Sample ID: WES23-13 1-4
Lab Sample ID: 890-5193-13
Date Collected: 09/01/23 09:00
Matrix: Solid
Date Received: 09/01/23 15:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61899	09/06/23 08:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61898	09/06/23 12:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 17:50	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 13:44	CH	EET MID

Client Sample ID: WES23-14 1-4
Lab Sample ID: 890-5193-14
Date Collected: 09/01/23 09:05
Matrix: Solid
Date Received: 09/01/23 15:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	61899	09/06/23 08:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61898	09/06/23 13:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:46	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-14 1-4
Date Collected: 09/01/23 09:05
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 18:12	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 14:00	CH	EET MID

Client Sample ID: WES23-15 1-4
Date Collected: 09/01/23 09:10
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	61899	09/06/23 08:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61898	09/06/23 13:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 18:34	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 14:06	CH	EET MID

Client Sample ID: WES23-16 0-1
Date Collected: 09/01/23 09:15
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61899	09/06/23 08:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61898	09/06/23 13:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	61930	09/06/23 11:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61883	09/06/23 18:56	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 14:11	CH	EET MID

Client Sample ID: WES23-17 0-1
Date Collected: 09/01/23 09:20
Date Received: 09/01/23 15:06

Lab Sample ID: 890-5193-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61899	09/06/23 08:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61898	09/06/23 14:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/06/23 14:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:24	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61932	09/06/23 11:07	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61885	09/06/23 16:21	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Client Sample ID: WES23-17 0-1
Lab Sample ID: 890-5193-17

Date Collected: 09/01/23 09:20
Matrix: Solid
Date Received: 09/01/23 15:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 14:17	CH	EET MID

Client Sample ID: WES23-18 0-1
Lab Sample ID: 890-5193-18

Date Collected: 09/01/23 09:25
Matrix: Solid
Date Received: 09/01/23 15:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	61899	09/06/23 08:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61898	09/06/23 14:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/07/23 10:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:24	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	61932	09/06/23 11:07	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61885	09/06/23 17:05	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 14:22	CH	EET MID

Client Sample ID: WES23-19 0-2
Lab Sample ID: 890-5193-19

Date Collected: 09/01/23 09:30
Matrix: Solid
Date Received: 09/01/23 15:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	61899	09/06/23 08:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61898	09/06/23 14:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/07/23 10:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:24	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61932	09/06/23 11:07	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61885	09/06/23 17:28	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 14:28	CH	EET MID

Client Sample ID: WES23-20 1-2
Lab Sample ID: 890-5193-20

Date Collected: 09/01/23 09:35
Matrix: Solid
Date Received: 09/01/23 15:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61899	09/06/23 08:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61898	09/06/23 17:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61952	09/07/23 10:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			61980	09/07/23 10:24	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	61932	09/06/23 11:07	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61885	09/06/23 17:50	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61892	09/06/23 08:10	CH	EET MID
Soluble	Analysis	300.0		1			61939	09/06/23 14:33	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5193-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5193-1	WES23-01 0-3	Solid	09/01/23 08:00	09/01/23 15:06	0-3
890-5193-2	WES23-02 0-3	Solid	09/01/23 08:05	09/01/23 15:06	0-3
890-5193-3	WES23-03 0-3	Solid	09/01/23 08:10	09/01/23 15:06	0-3
890-5193-4	WES23-04 0-1	Solid	09/01/23 08:15	09/01/23 15:06	0-1
890-5193-5	WES23-05 0-1	Solid	09/01/23 08:20	09/01/23 15:06	0-1
890-5193-6	WES23-06 0-1	Solid	09/01/23 08:25	09/01/23 15:06	0-1
890-5193-7	WES23-07 0-1	Solid	09/01/23 08:30	09/01/23 15:06	0-1
890-5193-8	WES23-08 1-4	Solid	09/01/23 08:35	09/01/23 15:06	1-4
890-5193-9	WES23-09 1-4	Solid	09/01/23 08:40	09/01/23 15:06	1-4
890-5193-10	WES23-10 1-4	Solid	09/01/23 08:45	09/01/23 15:06	1-4
890-5193-11	WES23-11 1-4	Solid	09/01/23 08:50	09/01/23 15:06	1-4
890-5193-12	WES23-12 0-4	Solid	09/01/23 08:55	09/01/23 15:06	0-4
890-5193-13	WES23-13 1-4	Solid	09/01/23 09:00	09/01/23 15:06	1-4
890-5193-14	WES23-14 1-4	Solid	09/01/23 09:05	09/01/23 15:06	1-4
890-5193-15	WES23-15 1-4	Solid	09/01/23 09:10	09/01/23 15:06	1-4
890-5193-16	WES23-16 0-1	Solid	09/01/23 09:15	09/01/23 15:06	0-1
890-5193-17	WES23-17 0-1	Solid	09/01/23 09:20	09/01/23 15:06	0-1
890-5193-18	WES23-18 0-1	Solid	09/01/23 09:25	09/01/23 15:06	0-1
890-5193-19	WES23-19 0-2	Solid	09/01/23 09:30	09/01/23 15:06	0-2
890-5193-20	WES23-20 1-2	Solid	09/01/23 09:35	09/01/23 15:06	1-2

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eurofins | Environment Testing Xenco

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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.ca	

Work Order Comments

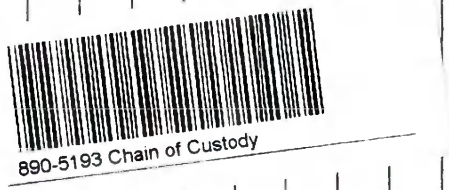
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Carleton SWD	Turn Around	24
Project Number:	23E-03626	~~Routine~~ X Rush ~~Hold~~	Pres. Code
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TNM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.8
Total Containers:		Corrected Temperature:	4.6

ANALYSIS REQUEST

Parameters: TPH, BTEX, Cl



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	Grab/ Comp	# of Cont	TPH	BTEX	Cl	Sample Comments
WES23-01 0-3'	Soil	9/1/23	8:00		C		x	x	x	
WES23-02 0-3'			8:05							
WES23-03 0-3'			8:10							
WES23-04 0-1'			8:15							
WES23-05 0-1'			8:20							
WES23-06 0-1'			8:25							
WES23-07 0-1'			8:30							
WES23-08 1-4'			8:35							
WES23-09 1-4'			8:40							
WES23-10 1-4'			8:45							

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	Hunter Klein		9-1-23 15:00			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 10/13/2023 12:00:18 AM

Released to Imaging: 3/19/2024 9:29:09 AM

9/7/2023

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Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1481 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 3
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-5193-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 9/6/2023			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Carleton SWD	Project #: 89000162			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B - NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I - Ice, J - DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P - Na2O4S, Q Na2SO3, R Na2S2O3, S - H2SO4, T TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
WES23-01 0-3 (890-5193-1)	9/1/23	08 00 Mountain		Solid			X	X	X	X	1	
WES23-02 0-3 (890-5193-2)	9/1/23	08 05 Mountain		Solid			X	X	X	X	1	
WES23-03 0-3 (890-5193-3)	9/1/23	08 10 Mountain		Solid			X	X	X	X	1	
WES23-04 0-1 (890-5193-4)	9/1/23	08 15 Mountain		Solid			X	X	X	X	1	
WES23-05 0-1 (890-5193-5)	9/1/23	08 20 Mountain		Solid			X	X	X	X	1	
WES23-06 0-1 (890-5193-6)	9/1/23	08 25 Mountain		Solid			X	X	X	X	1	
WES23-07 0-1 (890-5193-7)	9/1/23	08 30 Mountain		Solid			X	X	X	X	1	
WES23-08 1-4 (890-5193-8)	9/1/23	08 35 Mountain		Solid			X	X	X	X	1	
WES23-09 1-4 (890-5193-9)	9/1/23	08 40 Mountain		Solid			X	X	X	X	1	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central LLC

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.
Empty Kit Relinquished by:	Date: Time: Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

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9/7/2023
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Released to Imaging: 3/19/2024 9:29:09 AM

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1481 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 2 of 3
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-5193-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 9/6/2023			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Carleton SWD	Project #: 89000162			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I - Ice, J - DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y - Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
WES23-10 1-4 (890-5193-10)	9/1/23	08 45 Mountain		Solid			X	X	X	X	1	
WES23-11 1-4 (890-5193-11)	9/1/23	08 50 Mountain		Solid			X	X	X	X	1	
WES23-12 0-4 (890-5193-12)	9/1/23	08 55 Mountain		Solid			X	X	X	X	1	
WES23-13 1-4 (890-5193-13)	9/1/23	09 00 Mountain		Solid			X	X	X	X	1	
WES23-14 1-4 (890-5193-14)	9/1/23	09 05 Mountain		Solid			X	X	X	X	1	
WES23-15 1-4 (890-5193-15)	9/1/23	09 10 Mountain		Solid			X	X	X	X	1	
WES23-16 0-1 (890-5193-16)	9/1/23	09 15 Mountain		Solid			X	X	X	X	1	
WES23-17 0-1 (890-5193-17)	9/1/23	09 20 Mountain		Solid			X	X	X	X	1	
WES23-18 0-1 (890-5193-18)	9/1/23	09 25 Mountain		Solid			X	X	X	X	1	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

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Received by OCD: 10/13/2023 12:00:18 AM
9/7/2023
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Released to Imaging: 3/19/2024 9:29:09 AM

Eurofins Carlsbad
1089 N Canal St
Carlsbad, NM 88220
Phone. 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1481 3
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 3 of 3
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-5193-1
Address: 1211 W Florida Ave ,	Due Date Requested: 9/6/2023			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Carleton SWD	Project #: 89000162			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C Zn Acetate, D - Nitric Acid, E - NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M - Hexane, N None, O - AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W pH 4-5, Y - Trizma, Z other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX - LL	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note
			Preservation Code:									
WES23-19 0-2 (890-5193-19)	9/1/23	09 30 Mountain		Solid			X	X	X	X	1	
WES23-20 1-2 (890-5193-20)	9/1/23	09 35 Mountain		Solid			X	X	X	X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

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Received by OCD: 10/13/2023 12:00:18 AM
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Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5193-1
SDG Number: 23E-03626

Login Number: 5193
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5193-1
SDG Number: 23E-03626

Login Number: 5193
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 09/06/23 10:47 AM

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.	True	
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 9/15/2023 11:28:37 AM

JOB DESCRIPTION

Carleton SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-5250-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

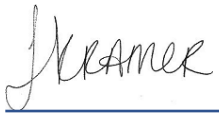
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
9/15/2023 11:28:37 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-5250-1
SDG: 23E-03626

Table of Contents

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QC Association Summary 37
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Definitions/Glossary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Job ID: 890-5250-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5250-1

Receipt
The samples were received on 9/12/2023 3:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BES23-50 (1.5) (890-5250-1), BES23-51 (1.5) (890-5250-2), BES23-54 (1.5) (890-5250-3), BES23-71 (1.5) (890-5250-4), BES23-72 (1.5) (890-5250-5), BES23-73 (1.5) (890-5250-6), BES23-74 (1.5) (890-5250-7), BES23-75 (1.5) (890-5250-8), BES23-76 (1.5) (890-5250-9), BES23-77 (1.5) (890-5250-10), BES23-78 (1.5) (890-5250-11), BES23-80 (1.5) (890-5250-12), BES23-92 (1.5) (890-5250-13), BES23-93 (1.5) (890-5250-14), BES23-94 (1.5) (890-5250-15), BES23-95 (1.5) (890-5250-16), BES23-96 (1.5) (890-5250-17), BES23-97 (1.5) (890-5250-18), BES23-98 (1.5) (890-5250-19), BES23-99 (1.5) (890-5250-20), BES23-100 (1.5) (890-5250-21), BES23-101 (1.5) (890-5250-22), BES23-102 (1.5) (890-5250-23), BES23-105 (1.5) (890-5250-24), BES23-110 (1.5) (890-5250-25), WES23-06 (0.-1.5) (890-5250-26), WES23-08 (0-4.5) (890-5250-27), WES23-12 (0-4.5) (890-5250-28) and WES23-13 (1.5-4.5) (890-5250-29).

GC VOA
Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-62437 and analytical batch 880-62372 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-62437 and analytical batch 880-62372 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: BES23-100 (1.5) (890-5250-21). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-62395/31), (CCV 880-62395/47) and (CCV 880-62395/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-62448 and analytical batch 880-62395 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-50 (1.5) (890-5250-1), BES23-51 (1.5) (890-5250-2), BES23-54 (1.5) (890-5250-3), BES23-71 (1.5) (890-5250-4), BES23-72 (1.5) (890-5250-5), BES23-73 (1.5) (890-5250-6), BES23-74 (1.5) (890-5250-7), BES23-75 (1.5) (890-5250-8), BES23-76 (1.5) (890-5250-9), BES23-77 (1.5) (890-5250-10), (890-5250-A-1-H MS) and (890-5250-A-1-I MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BES23-78 (1.5) (890-5250-11), BES23-92 (1.5) (890-5250-13), BES23-93 (1.5) (890-5250-14), BES23-94 (1.5) (890-5250-15), BES23-95 (1.5) (890-5250-16), BES23-98 (1.5) (890-5250-19) and BES23-99 (1.5) (890-5250-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-62448 and analytical batch 880-62395 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.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-62449 and analytical batch 880-62397 recovered outside control limits for the following analytes: Diesel Range Organics (Over

Case Narrative

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Job ID: 890-5250-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

C10-C28).

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: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-62289 and analytical batch 880-62364 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-62409 and 880-62409 and analytical batch 880-62458 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.The associated samples are: BES23-78 (1.5) (890-5250-11), BES23-80 (1.5) (890-5250-12), BES23-92 (1.5) (890-5250-13), BES23-93 (1.5) (890-5250-14), BES23-94 (1.5) (890-5250-15), BES23-95 (1.5) (890-5250-16), BES23-96 (1.5) (890-5250-17), BES23-97 (1.5) (890-5250-18), BES23-98 (1.5) (890-5250-19), BES23-99 (1.5) (890-5250-20), (CCB 880-62458/26), (CCV 880-62458/25), (890-5250-A-11-B MS) and (890-5250-A-11-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: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-50 (1.5)

Lab Sample ID: 890-5250-1
Matrix: Solid
Date Collected: 09/12/23 09:00
Date Received: 09/12/23 15:12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 18:12	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 18:12	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 18:12	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/14/23 11:52	09/14/23 18:12	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/14/23 11:52	09/14/23 18:12	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*09/14/23 11:52*	*09/14/23 18:12*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*09/14/23 11:52*	*09/14/23 18:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/14/23 20:32	1
Diesel Range Organics (Over C10-C28)	<50.3	U F1	50.3		mg/Kg		09/14/23 12:57	09/14/23 20:32	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/14/23 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*161*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 20:32*	*1*
o-Terphenyl	*149*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 20:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**133**		4.98		mg/Kg			09/14/23 14:30	1

Client Sample ID: BES23-51 (1.5)

Lab Sample ID: 890-5250-2
Matrix: Solid
Date Collected: 09/12/23 09:05
Date Received: 09/12/23 15:12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/14/23 18:32	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/14/23 18:32	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/14/23 18:32	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/14/23 11:52	09/14/23 18:32	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/14/23 11:52	09/14/23 18:32	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/14/23 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*09/14/23 11:52*	*09/14/23 18:32*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*09/14/23 11:52*	*09/14/23 18:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-51 (1.5)
Date Collected: 09/12/23 09:05
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-2
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/14/23 21:36	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/14/23 21:36	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/14/23 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 21:36*	*1*
o-Terphenyl	*126*		*70 - 130*	*09/14/23 12:57*	*09/14/23 21:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**408**		5.00		mg/Kg			09/14/23 14:49	1

Client Sample ID: BES23-54 (1.5)
Date Collected: 09/12/23 09:10
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-3
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/14/23 18:53	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/14/23 18:53	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/14/23 18:53	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/14/23 11:52	09/14/23 18:53	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/14/23 11:52	09/14/23 18:53	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/14/23 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*09/14/23 11:52*	*09/14/23 18:53*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*09/14/23 11:52*	*09/14/23 18:53*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		09/14/23 12:57	09/14/23 21:57	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		09/14/23 12:57	09/14/23 21:57	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		09/14/23 12:57	09/14/23 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 21:57*	*1*
o-Terphenyl	*127*		*70 - 130*	*09/14/23 12:57*	*09/14/23 21:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**358**		4.99		mg/Kg			09/14/23 14:55	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-71 (1.5)
Date Collected: 09/12/23 09:15
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-4
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 19:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 19:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 19:13	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		09/14/23 11:52	09/14/23 19:13	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		09/14/23 11:52	09/14/23 19:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 19:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*09/14/23 11:52*	*09/14/23 19:13*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/14/23 11:52*	*09/14/23 19:13*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		09/14/23 12:57	09/14/23 22:18	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		09/14/23 12:57	09/14/23 22:18	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		09/14/23 12:57	09/14/23 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 22:18*	*1*
o-Terphenyl	*127*		*70 - 130*	*09/14/23 12:57*	*09/14/23 22:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**343**		5.01		mg/Kg			09/14/23 15:02	1

Client Sample ID: BES23-72 (1.5)
Date Collected: 09/12/23 09:20
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-5
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 19:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 19:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 19:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/14/23 11:52	09/14/23 19:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/14/23 11:52	09/14/23 19:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*09/14/23 11:52*	*09/14/23 19:33*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*09/14/23 11:52*	*09/14/23 19:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-72 (1.5)
Date Collected: 09/12/23 09:20
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-5
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		09/14/23 12:57	09/14/23 22:39	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		09/14/23 12:57	09/14/23 22:39	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		09/14/23 12:57	09/14/23 22:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 22:39*	*1*
o-Terphenyl	*124*		*70 - 130*	*09/14/23 12:57*	*09/14/23 22:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		4.95		mg/Kg			09/14/23 15:08	1

Client Sample ID: BES23-73 (1.5)
Date Collected: 09/12/23 09:25
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-6
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 19:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 19:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 19:54	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/14/23 11:52	09/14/23 19:54	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/14/23 11:52	09/14/23 19:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*09/14/23 11:52*	*09/14/23 19:54*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*09/14/23 11:52*	*09/14/23 19:54*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/14/23 12:57	09/14/23 23:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/14/23 12:57	09/14/23 23:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/14/23 12:57	09/14/23 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*146*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 23:01*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 23:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**450**		4.96		mg/Kg			09/14/23 15:27	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-74 (1.5)
Date Collected: 09/12/23 09:30
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-7
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 20:14	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 20:14	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 20:14	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/14/23 11:52	09/14/23 20:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/14/23 11:52	09/14/23 20:14	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*09/14/23 11:52*	*09/14/23 20:14*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/14/23 11:52*	*09/14/23 20:14*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		09/14/23 12:57	09/14/23 23:22	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		09/14/23 12:57	09/14/23 23:22	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		09/14/23 12:57	09/14/23 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 23:22*	*1*
o-Terphenyl	*123*		*70 - 130*	*09/14/23 12:57*	*09/14/23 23:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**248**		4.98		mg/Kg			09/14/23 15:34	1

Client Sample ID: BES23-75 (1.5)
Date Collected: 09/12/23 09:35
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-8
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 20:35	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 20:35	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 20:35	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/14/23 11:52	09/14/23 20:35	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/14/23 11:52	09/14/23 20:35	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 20:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*09/14/23 11:52*	*09/14/23 20:35*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*09/14/23 11:52*	*09/14/23 20:35*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-75 (1.5)
Date Collected: 09/12/23 09:35
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-8
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		09/14/23 12:57	09/14/23 23:44	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		09/14/23 12:57	09/14/23 23:44	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		09/14/23 12:57	09/14/23 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 23:44*	*1*
o-Terphenyl	*120*		*70 - 130*	*09/14/23 12:57*	*09/14/23 23:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**192**		5.00		mg/Kg			09/14/23 15:40	1

Client Sample ID: BES23-76 (1.5)
Date Collected: 09/12/23 09:40
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-9
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/14/23 20:55	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/14/23 20:55	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/14/23 20:55	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/14/23 11:52	09/14/23 20:55	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/14/23 11:52	09/14/23 20:55	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/14/23 20:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*09/14/23 11:52*	*09/14/23 20:55*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*09/14/23 11:52*	*09/14/23 20:55*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/15/23 00:05	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/15/23 00:05	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/15/23 00:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 00:05*	*1*
o-Terphenyl	*124*		*70 - 130*	*09/14/23 12:57*	*09/15/23 00:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**153**		4.97		mg/Kg			09/14/23 15:47	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-77 (1.5)

Lab Sample ID: 890-5250-10
Matrix: Solid
Date Collected: 09/12/23 09:45
Date Received: 09/12/23 15:12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/14/23 21:16	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/14/23 21:16	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/14/23 21:16	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/14/23 11:52	09/14/23 21:16	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/14/23 11:52	09/14/23 21:16	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/14/23 21:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*09/14/23 11:52*	*09/14/23 21:16*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/14/23 11:52*	*09/14/23 21:16*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5		mg/Kg		09/14/23 12:57	09/15/23 00:26	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5		mg/Kg		09/14/23 12:57	09/15/23 00:26	1
Oil Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		09/14/23 12:57	09/15/23 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 00:26*	*1*
o-Terphenyl	*117*		*70 - 130*	*09/14/23 12:57*	*09/15/23 00:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**167**		4.99		mg/Kg			09/14/23 15:53	1

Client Sample ID: BES23-78 (1.5)

Lab Sample ID: 890-5250-11
Matrix: Solid
Date Collected: 09/12/23 09:50
Date Received: 09/12/23 15:12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 23:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 23:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 23:06	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/14/23 11:52	09/14/23 23:06	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/14/23 11:52	09/14/23 23:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*09/14/23 11:52*	*09/14/23 23:06*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*09/14/23 11:52*	*09/14/23 23:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-78 (1.5)
Date Collected: 09/12/23 09:50
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-11
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/15/23 01:09	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/15/23 01:09	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/15/23 01:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*140*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 01:09*	*1*
o-Terphenyl	*121*		*70 - 130*	*09/14/23 12:57*	*09/15/23 01:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**303**	**F1**	4.96		mg/Kg			09/14/23 15:59	1

Client Sample ID: BES23-80 (1.5)
Date Collected: 09/12/23 09:55
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-12
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 23:26	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 23:26	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 23:26	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/14/23 11:52	09/14/23 23:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/14/23 11:52	09/14/23 23:26	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/14/23 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*09/14/23 11:52*	*09/14/23 23:26*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*09/14/23 11:52*	*09/14/23 23:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		09/14/23 12:57	09/15/23 01:30	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		09/14/23 12:57	09/15/23 01:30	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		09/14/23 12:57	09/15/23 01:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*09/14/23 12:57*	*09/15/23 01:30*	*1*
o-Terphenyl	*113*		*70 - 130*	*09/14/23 12:57*	*09/15/23 01:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**106**		5.01		mg/Kg			09/14/23 18:25	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-92 (1.5)

Lab Sample ID: 890-5250-13
Matrix: Solid
Date Collected: 09/12/23 10:00
Date Received: 09/12/23 15:12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 23:47	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 23:47	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 23:47	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/14/23 11:52	09/14/23 23:47	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/14/23 11:52	09/14/23 23:47	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/14/23 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*09/14/23 11:52*	*09/14/23 23:47*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*09/14/23 11:52*	*09/14/23 23:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/14/23 12:57	09/15/23 01:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/14/23 12:57	09/15/23 01:51	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/14/23 12:57	09/15/23 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*152*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 01:51*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 01:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**220**		5.04		mg/Kg			09/14/23 16:25	1

Client Sample ID: BES23-93 (1.5)

Lab Sample ID: 890-5250-14
Matrix: Solid
Date Collected: 09/12/23 10:05
Date Received: 09/12/23 15:12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/15/23 00:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/15/23 00:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/15/23 00:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/14/23 11:52	09/15/23 00:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/14/23 11:52	09/15/23 00:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/15/23 00:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*09/14/23 11:52*	*09/15/23 00:07*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*09/14/23 11:52*	*09/15/23 00:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-93 (1.5)
Date Collected: 09/12/23 10:05
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-14
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		09/14/23 12:57	09/15/23 02:12	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		09/14/23 12:57	09/15/23 02:12	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		09/14/23 12:57	09/15/23 02:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 02:12*	*1*
o-Terphenyl	*124*		*70 - 130*	*09/14/23 12:57*	*09/15/23 02:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**364**		4.99		mg/Kg			09/14/23 16:44	1

Client Sample ID: BES23-94 (1.5)
Date Collected: 09/12/23 10:10
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-15
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/15/23 00:27	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/15/23 00:27	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/15/23 00:27	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/14/23 11:52	09/15/23 00:27	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/14/23 11:52	09/15/23 00:27	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/14/23 11:52	09/15/23 00:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*09/14/23 11:52*	*09/15/23 00:27*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*09/14/23 11:52*	*09/15/23 00:27*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		09/14/23 12:57	09/15/23 02:34	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		09/14/23 12:57	09/15/23 02:34	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		09/14/23 12:57	09/15/23 02:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 02:34*	*1*
o-Terphenyl	*126*		*70 - 130*	*09/14/23 12:57*	*09/15/23 02:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**153**		4.95		mg/Kg			09/14/23 16:50	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-95 (1.5)
Date Collected: 09/12/23 10:15
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-16
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/15/23 00:48	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/15/23 00:48	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/15/23 00:48	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/14/23 11:52	09/15/23 00:48	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/14/23 11:52	09/15/23 00:48	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/14/23 11:52	09/15/23 00:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*09/14/23 11:52*	*09/15/23 00:48*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*09/14/23 11:52*	*09/15/23 00:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/15/23 02:55	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/15/23 02:55	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		09/14/23 12:57	09/15/23 02:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 02:55*	*1*
o-Terphenyl	*118*		*70 - 130*	*09/14/23 12:57*	*09/15/23 02:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**229**		5.00		mg/Kg			09/14/23 16:57	1

Client Sample ID: BES23-96 (1.5)
Date Collected: 09/12/23 10:20
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-17
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/15/23 01:08	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/15/23 01:08	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/15/23 01:08	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		09/14/23 11:52	09/15/23 01:08	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		09/14/23 11:52	09/15/23 01:08	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/15/23 01:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*09/14/23 11:52*	*09/15/23 01:08*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*09/14/23 11:52*	*09/15/23 01:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-96 (1.5)
Date Collected: 09/12/23 10:20
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-17
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		09/14/23 12:57	09/15/23 03:17	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		09/14/23 12:57	09/15/23 03:17	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		09/14/23 12:57	09/15/23 03:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*09/14/23 12:57*	*09/15/23 03:17*	*1*
o-Terphenyl	*117*		*70 - 130*	*09/14/23 12:57*	*09/15/23 03:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**88.0**		4.97		mg/Kg			09/14/23 17:03	1

Client Sample ID: BES23-97 (1.5)
Date Collected: 09/12/23 10:25
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-18
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/15/23 01:29	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/15/23 01:29	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/15/23 01:29	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/14/23 11:52	09/15/23 01:29	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/14/23 11:52	09/15/23 01:29	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/14/23 11:52	09/15/23 01:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*09/14/23 11:52*	*09/15/23 01:29*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*09/14/23 11:52*	*09/15/23 01:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		09/14/23 12:57	09/15/23 03:38	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		09/14/23 12:57	09/15/23 03:38	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		09/14/23 12:57	09/15/23 03:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*09/14/23 12:57*	*09/15/23 03:38*	*1*
o-Terphenyl	*116*		*70 - 130*	*09/14/23 12:57*	*09/15/23 03:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**105**		5.00		mg/Kg			09/14/23 17:10	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-98 (1.5)
Date Collected: 09/12/23 10:30
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-19
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/15/23 01:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/15/23 01:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/15/23 01:49	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/14/23 11:52	09/15/23 01:49	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/14/23 11:52	09/15/23 01:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/15/23 01:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*09/14/23 11:52*	*09/15/23 01:49*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*09/14/23 11:52*	*09/15/23 01:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		09/14/23 12:57	09/15/23 03:59	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		09/14/23 12:57	09/15/23 03:59	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		09/14/23 12:57	09/15/23 03:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*138*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 03:59*	*1*
o-Terphenyl	*125*		*70 - 130*	*09/14/23 12:57*	*09/15/23 03:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**320**		4.95		mg/Kg			09/14/23 17:16	1

Client Sample ID: BES23-99 (1.5)
Date Collected: 09/12/23 10:35
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-20
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/15/23 02:10	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/15/23 02:10	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/15/23 02:10	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		09/14/23 11:52	09/15/23 02:10	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		09/14/23 11:52	09/15/23 02:10	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/14/23 11:52	09/15/23 02:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*09/14/23 11:52*	*09/15/23 02:10*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/14/23 11:52*	*09/15/23 02:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-99 (1.5)
Date Collected: 09/12/23 10:35
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-20
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		09/14/23 12:57	09/15/23 04:21	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		09/14/23 12:57	09/15/23 04:21	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		09/14/23 12:57	09/15/23 04:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/15/23 04:21*	*1*
o-Terphenyl	*117*		*70 - 130*	*09/14/23 12:57*	*09/15/23 04:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**394**		4.98		mg/Kg			09/14/23 17:22	1

Client Sample ID: BES23-100 (1.5)
Date Collected: 09/12/23 10:40
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-21
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/14/23 12:07	09/15/23 05:47	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/14/23 12:07	09/15/23 05:47	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/14/23 12:07	09/15/23 05:47	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/14/23 12:07	09/15/23 05:47	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/14/23 12:07	09/15/23 05:47	1
o-Xylene	<0.00198	U F1	0.00198		mg/Kg		09/14/23 12:07	09/15/23 05:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*09/14/23 12:07*	*09/15/23 05:47*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*09/14/23 12:07*	*09/15/23 05:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		09/14/23 13:00	09/14/23 20:32	1
Diesel Range Organics (Over C10-C28)	<50.3	U *1	50.3		mg/Kg		09/14/23 13:00	09/14/23 20:32	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		09/14/23 13:00	09/14/23 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*09/14/23 13:00*	*09/14/23 20:32*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/14/23 13:00*	*09/14/23 20:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**395**		5.04		mg/Kg			09/14/23 14:50	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-101 (1.5)
Date Collected: 09/12/23 10:45
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-22
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/14/23 12:07	09/15/23 06:07	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/14/23 12:07	09/15/23 06:07	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/14/23 12:07	09/15/23 06:07	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		09/14/23 12:07	09/15/23 06:07	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		09/14/23 12:07	09/15/23 06:07	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/14/23 12:07	09/15/23 06:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*09/14/23 12:07*	*09/15/23 06:07*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*09/14/23 12:07*	*09/15/23 06:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		09/14/23 13:00	09/14/23 21:36	1
Diesel Range Organics (Over C10-C28)	<50.3	U *1	50.3		mg/Kg		09/14/23 13:00	09/14/23 21:36	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		09/14/23 13:00	09/14/23 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*09/14/23 13:00*	*09/14/23 21:36*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/14/23 13:00*	*09/14/23 21:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		5.03		mg/Kg			09/14/23 14:56	1

Client Sample ID: BES23-102 (1.5)
Date Collected: 09/12/23 10:50
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-23
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 06:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 06:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 06:28	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		09/14/23 12:07	09/15/23 06:28	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		09/14/23 12:07	09/15/23 06:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 06:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*09/14/23 12:07*	*09/15/23 06:28*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/14/23 12:07*	*09/15/23 06:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-102 (1.5)
Date Collected: 09/12/23 10:50
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-23
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		09/14/23 13:00	09/14/23 21:57	1
Diesel Range Organics (Over C10-C28)	<50.1	U *1	50.1		mg/Kg		09/14/23 13:00	09/14/23 21:57	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		09/14/23 13:00	09/14/23 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*09/14/23 13:00*	*09/14/23 21:57*	*1*
o-Terphenyl	*118*		*70 - 130*	*09/14/23 13:00*	*09/14/23 21:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**196**		5.05		mg/Kg			09/14/23 15:03	1

Client Sample ID: BES23-105 (1.5)
Date Collected: 09/12/23 10:55
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-24
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 06:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 06:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 06:48	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/14/23 12:07	09/15/23 06:48	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/14/23 12:07	09/15/23 06:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 06:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*09/14/23 12:07*	*09/15/23 06:48*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*09/14/23 12:07*	*09/15/23 06:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/14/23 13:00	09/14/23 22:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0		mg/Kg		09/14/23 13:00	09/14/23 22:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/14/23 13:00	09/14/23 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*09/14/23 13:00*	*09/14/23 22:18*	*1*
o-Terphenyl	*102*		*70 - 130*	*09/14/23 13:00*	*09/14/23 22:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**317**		5.01		mg/Kg			09/14/23 15:10	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-110 (1.5)
Date Collected: 09/12/23 11:00
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-25
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/14/23 12:07	09/15/23 07:09	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/14/23 12:07	09/15/23 07:09	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/14/23 12:07	09/15/23 07:09	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		09/14/23 12:07	09/15/23 07:09	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		09/14/23 12:07	09/15/23 07:09	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/14/23 12:07	09/15/23 07:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*09/14/23 12:07*	*09/15/23 07:09*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*09/14/23 12:07*	*09/15/23 07:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/14/23 13:00	09/14/23 22:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		09/14/23 13:00	09/14/23 22:39	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/14/23 13:00	09/14/23 22:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*09/14/23 13:00*	*09/14/23 22:39*	*1*
o-Terphenyl	*115*		*70 - 130*	*09/14/23 13:00*	*09/14/23 22:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	113		4.99		mg/Kg			09/14/23 15:16	1

Client Sample ID: WES23-06 (0.-1.5)
Date Collected: 09/12/23 11:05
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-26
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/14/23 12:07	09/15/23 07:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/14/23 12:07	09/15/23 07:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/14/23 12:07	09/15/23 07:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/14/23 12:07	09/15/23 07:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/14/23 12:07	09/15/23 07:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/14/23 12:07	09/15/23 07:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*09/14/23 12:07*	*09/15/23 07:29*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*09/14/23 12:07*	*09/15/23 07:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: WES23-06 (0.-1.5)

Lab Sample ID: 890-5250-26
Matrix: Solid
Date Collected: 09/12/23 11:05
Date Received: 09/12/23 15:12

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		09/14/23 13:00	09/14/23 23:01	1
Diesel Range Organics (Over C10-C28)	<49.7	U *1	49.7		mg/Kg		09/14/23 13:00	09/14/23 23:01	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		09/14/23 13:00	09/14/23 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*09/14/23 13:00*	*09/14/23 23:01*	*1*
o-Terphenyl	*107*		*70 - 130*	*09/14/23 13:00*	*09/14/23 23:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**97.6**		4.98		mg/Kg			09/14/23 15:23	1

Client Sample ID: WES23-08 (0-4.5)

Lab Sample ID: 890-5250-27
Matrix: Solid
Date Collected: 09/12/23 11:10
Date Received: 09/12/23 15:12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/14/23 12:07	09/15/23 07:50	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/14/23 12:07	09/15/23 07:50	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/14/23 12:07	09/15/23 07:50	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/14/23 12:07	09/15/23 07:50	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/14/23 12:07	09/15/23 07:50	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/14/23 12:07	09/15/23 07:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*09/14/23 12:07*	*09/15/23 07:50*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*09/14/23 12:07*	*09/15/23 07:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		09/14/23 13:00	09/14/23 23:22	1
Diesel Range Organics (Over C10-C28)	<50.1	U *1	50.1		mg/Kg		09/14/23 13:00	09/14/23 23:22	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		09/14/23 13:00	09/14/23 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*09/14/23 13:00*	*09/14/23 23:22*	*1*
o-Terphenyl	*104*		*70 - 130*	*09/14/23 13:00*	*09/14/23 23:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**164**		5.04		mg/Kg			09/14/23 15:30	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: WES23-12 (0-4.5)

Lab Sample ID: 890-5250-28
Matrix: Solid
Date Collected: 09/12/23 11:15
Date Received: 09/12/23 15:12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/14/23 12:07	09/15/23 08:10	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/14/23 12:07	09/15/23 08:10	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/14/23 12:07	09/15/23 08:10	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/14/23 12:07	09/15/23 08:10	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/14/23 12:07	09/15/23 08:10	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/14/23 12:07	09/15/23 08:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*09/14/23 12:07*	*09/15/23 08:10*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/14/23 12:07*	*09/15/23 08:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/15/23 09:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		09/14/23 13:00	09/14/23 23:44	1
Diesel Range Organics (Over C10-C28)	<50.5	U *1	50.5		mg/Kg		09/14/23 13:00	09/14/23 23:44	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		09/14/23 13:00	09/14/23 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*09/14/23 13:00*	*09/14/23 23:44*	*1*
o-Terphenyl	*112*		*70 - 130*	*09/14/23 13:00*	*09/14/23 23:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**376**		5.01		mg/Kg			09/14/23 15:36	1

Client Sample ID: WES23-13 (1.5-4.5)

Lab Sample ID: 890-5250-29
Matrix: Solid
Date Collected: 09/12/23 11:20
Date Received: 09/12/23 15:12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 08:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 08:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 08:31	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		09/14/23 12:07	09/15/23 08:31	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		09/14/23 12:07	09/15/23 08:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 08:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*09/14/23 12:07*	*09/15/23 08:31*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*09/14/23 12:07*	*09/15/23 08:31*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			09/15/23 09:58	1

Client Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: WES23-13 (1.5-4.5)

Date Collected: 09/12/23 11:20
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-29

Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/14/23 13:00	09/15/23 00:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		09/14/23 13:00	09/15/23 00:05	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/14/23 13:00	09/15/23 00:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*09/14/23 13:00*	*09/15/23 00:05*	*1*
o-Terphenyl	*109*		*70 - 130*	*09/14/23 13:00*	*09/15/23 00:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**88.4**		4.97		mg/Kg			09/14/23 15:43	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-5250-1	BES23-50 (1.5)	73	85
890-5250-1 MS	BES23-50 (1.5)	96	92
890-5250-1 MSD	BES23-50 (1.5)	90	89
890-5250-2	BES23-51 (1.5)	86	91
890-5250-3	BES23-54 (1.5)	77	93
890-5250-4	BES23-71 (1.5)	85	99
890-5250-5	BES23-72 (1.5)	81	94
890-5250-6	BES23-73 (1.5)	79	95
890-5250-7	BES23-74 (1.5)	82	98
890-5250-8	BES23-75 (1.5)	84	95
890-5250-9	BES23-76 (1.5)	84	96
890-5250-10	BES23-77 (1.5)	80	99
890-5250-11	BES23-78 (1.5)	71	100
890-5250-12	BES23-80 (1.5)	78	95
890-5250-13	BES23-92 (1.5)	83	105
890-5250-14	BES23-93 (1.5)	76	97
890-5250-15	BES23-94 (1.5)	81	103
890-5250-16	BES23-95 (1.5)	81	102
890-5250-17	BES23-96 (1.5)	89	97
890-5250-18	BES23-97 (1.5)	85	105
890-5250-19	BES23-98 (1.5)	80	102
890-5250-20	BES23-99 (1.5)	80	107
890-5250-21	BES23-100 (1.5)	67 S1-	91
890-5250-21 MS	BES23-100 (1.5)	85	91
890-5250-21 MSD	BES23-100 (1.5)	86	91
890-5250-22	BES23-101 (1.5)	85	93
890-5250-23	BES23-102 (1.5)	79	99
890-5250-24	BES23-105 (1.5)	85	93
890-5250-25	BES23-110 (1.5)	92	96
890-5250-26	WES23-06 (0.-1.5)	90	97
890-5250-27	WES23-08 (0-4.5)	90	91
890-5250-28	WES23-12 (0-4.5)	96	99
890-5250-29	WES23-13 (1.5-4.5)	91	102
LCS 880-62435/1-A	Lab Control Sample	84	93
LCS 880-62437/1-A	Lab Control Sample	73	96
LCSD 880-62435/2-A	Lab Control Sample Dup	102	97
LCSD 880-62437/2-A	Lab Control Sample Dup	85	91
MB 880-62318/5-A	Method Blank	105	118
MB 880-62435/5-A	Method Blank	101	119
MB 880-62437/5-A	Method Blank	106	135 S1+

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5250-1	BES23-50 (1.5)	161 S1+	149 S1+
890-5250-1 MS	BES23-50 (1.5)	137 S1+	110
890-5250-1 MSD	BES23-50 (1.5)	143 S1+	113
890-5250-2	BES23-51 (1.5)	137 S1+	126
890-5250-3	BES23-54 (1.5)	142 S1+	127
890-5250-4	BES23-71 (1.5)	137 S1+	127
890-5250-5	BES23-72 (1.5)	137 S1+	124
890-5250-6	BES23-73 (1.5)	146 S1+	133 S1+
890-5250-7	BES23-74 (1.5)	139 S1+	123
890-5250-8	BES23-75 (1.5)	134 S1+	120
890-5250-9	BES23-76 (1.5)	133 S1+	124
890-5250-10	BES23-77 (1.5)	132 S1+	117
890-5250-11	BES23-78 (1.5)	140 S1+	121
890-5250-12	BES23-80 (1.5)	124	113
890-5250-13	BES23-92 (1.5)	152 S1+	135 S1+
890-5250-14	BES23-93 (1.5)	137 S1+	124
890-5250-15	BES23-94 (1.5)	139 S1+	126
890-5250-16	BES23-95 (1.5)	131 S1+	118
890-5250-17	BES23-96 (1.5)	128	117
890-5250-18	BES23-97 (1.5)	128	116
890-5250-19	BES23-98 (1.5)	138 S1+	125
890-5250-20	BES23-99 (1.5)	131 S1+	117
890-5250-21	BES23-100 (1.5)	103	111
890-5250-21 MS	BES23-100 (1.5)	116	114
890-5250-21 MSD	BES23-100 (1.5)	101	99
890-5250-22	BES23-101 (1.5)	101	111
890-5250-23	BES23-102 (1.5)	113	118
890-5250-24	BES23-105 (1.5)	98	102
890-5250-25	BES23-110 (1.5)	111	115
890-5250-26	WES23-06 (0.-1.5)	104	107
890-5250-27	WES23-08 (0-4.5)	101	104
890-5250-28	WES23-12 (0-4.5)	107	112
890-5250-29	WES23-13 (1.5-4.5)	106	109
LCS 880-62448/2-A	Lab Control Sample	113	127
LCS 880-62449/2-A	Lab Control Sample	94	104
LCSD 880-62448/3-A	Lab Control Sample Dup	105	104
LCSD 880-62449/3-A	Lab Control Sample Dup	81	90
MB 880-62448/1-A	Method Blank	151 S1+	137 S1+
MB 880-62449/1-A	Method Blank	116	126

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-62318/5-A
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62318

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/13/23 09:27	09/14/23 05:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/13/23 09:27	09/14/23 05:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/13/23 09:27	09/14/23 05:45	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/13/23 09:27	09/14/23 05:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/13/23 09:27	09/14/23 05:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/13/23 09:27	09/14/23 05:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*09/13/23 09:27*	*09/14/23 05:45*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*09/13/23 09:27*	*09/14/23 05:45*	*1*

Lab Sample ID: MB 880-62435/5-A
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62435

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 17:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 17:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 17:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/14/23 11:52	09/14/23 17:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/14/23 11:52	09/14/23 17:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 11:52	09/14/23 17:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*09/14/23 11:52*	*09/14/23 17:42*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*09/14/23 11:52*	*09/14/23 17:42*	*1*

Lab Sample ID: LCS 880-62435/1-A
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62435

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09431		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.08606		mg/Kg		86	70 - 130
Toluene	0.100	0.09147		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1655		mg/Kg		83	70 - 130
o-Xylene	0.100	0.07504		mg/Kg		75	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-62435/2-A
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62435

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1087		mg/Kg		109	70 - 130	14	35

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-62435/2-A
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62435

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene			0.100	0.09281		mg/Kg		93	70 - 130	8	35
Toluene			0.100	0.09843		mg/Kg		98	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1894		mg/Kg		95	70 - 130	14	35
o-Xylene			0.100	0.09364		mg/Kg		94	70 - 130	22	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-5250-1 MS
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: BES23-50 (1.5)
Prep Type: Total/NA
Prep Batch: 62435

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.0996	0.09249		mg/Kg		92	70 - 130
Ethylbenzene	<0.00198	U	0.0996	0.07476		mg/Kg		75	70 - 130
Toluene	<0.00198	U	0.0996	0.08216		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.199	0.1490		mg/Kg		75	70 - 130
o-Xylene	<0.00198	U	0.0996	0.07586		mg/Kg		76	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-5250-1 MSD
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: BES23-50 (1.5)
Prep Type: Total/NA
Prep Batch: 62435

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0998	0.09520		mg/Kg		95	70 - 130	3	35
Ethylbenzene	<0.00198	U	0.0998	0.08266		mg/Kg		83	70 - 130	10	35
Toluene	<0.00198	U	0.0998	0.08754		mg/Kg		86	70 - 130	6	35
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1686		mg/Kg		84	70 - 130	12	35
o-Xylene	<0.00198	U	0.0998	0.07811		mg/Kg		78	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: MB 880-62437/5-A
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 05:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 05:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 05:18	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/14/23 12:07	09/15/23 05:18	1

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-62437/5-A
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/14/23 12:07	09/15/23 05:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/23 12:07	09/15/23 05:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*09/14/23 12:07*	*09/15/23 05:18*	*1*
1,4-Difluorobenzene (Surr)	*135*	*S1+*	*70 - 130*	*09/14/23 12:07*	*09/15/23 05:18*	*1*

Lab Sample ID: LCS 880-62437/1-A
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1040		mg/Kg		104	70 - 130
Ethylbenzene	0.100	0.08218		mg/Kg		82	70 - 130
Toluene	0.100	0.09981		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	0.200	0.1666		mg/Kg		83	70 - 130
o-Xylene	0.100	0.07879		mg/Kg		79	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-62437/2-A
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09608		mg/Kg		96	70 - 130	8	35
Ethylbenzene	0.100	0.09277		mg/Kg		93	70 - 130	12	35
Toluene	0.100	0.09971		mg/Kg		100	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.1925		mg/Kg		96	70 - 130	14	35
o-Xylene	0.100	0.09161		mg/Kg		92	70 - 130	15	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: 890-5250-21 MS
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: BES23-100 (1.5)
Prep Type: Total/NA
Prep Batch: 62437

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.0996	0.08953		mg/Kg		90	70 - 130
Ethylbenzene	<0.00198	U	0.0996	0.07065		mg/Kg		71	70 - 130
Toluene	<0.00198	U	0.0996	0.08236		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.199	0.1445		mg/Kg		73	70 - 130
o-Xylene	<0.00198	U F1	0.0996	0.06856	F1	mg/Kg		69	70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-5250-21 MS
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: BES23-100 (1.5)
Prep Type: Total/NA
Prep Batch: 62437

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: 890-5250-21 MSD
Matrix: Solid
Analysis Batch: 62372

Client Sample ID: BES23-100 (1.5)
Prep Type: Total/NA
Prep Batch: 62437

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.101	0.08311		mg/Kg		82	70 - 130	7	35
Ethylbenzene	<0.00198	U	0.101	0.07313		mg/Kg		73	70 - 130	3	35
Toluene	<0.00198	U	0.101	0.08676		mg/Kg		85	70 - 130	5	35
m-Xylene & p-Xylene	<0.00396	U	0.202	0.1583		mg/Kg		79	70 - 130	9	35
o-Xylene	<0.00198	U F1	0.101	0.07596		mg/Kg		75	70 - 130	10	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-62448/1-A
Matrix: Solid
Analysis Batch: 62395

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/14/23 12:57	09/14/23 19:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/14/23 12:57	09/14/23 19:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/14/23 12:57	09/14/23 19:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*151*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 19:28*	*1*
o-Terphenyl	*137*	*S1+*	*70 - 130*	*09/14/23 12:57*	*09/14/23 19:28*	*1*

Lab Sample ID: LCS 880-62448/2-A
Matrix: Solid
Analysis Batch: 62395

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1081		mg/Kg		108	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1037		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*113*		*70 - 130*
o-Terphenyl	*127*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-62448/3-A
Matrix: Solid
Analysis Batch: 62395

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62448

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1030		mg/Kg		103	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	994.1		mg/Kg		99	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 890-5250-1 MS
Matrix: Solid
Analysis Batch: 62395

Client Sample ID: BES23-50 (1.5)
Prep Type: Total/NA
Prep Batch: 62448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	997	995.5		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.3	U F1	997	1369	F1	mg/Kg		135	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*137*	*S1+*	*70 - 130*
o-Terphenyl	*110*		*70 - 130*

Lab Sample ID: 890-5250-1 MSD
Matrix: Solid
Analysis Batch: 62395

Client Sample ID: BES23-50 (1.5)
Prep Type: Total/NA
Prep Batch: 62448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	997	1019		mg/Kg		99	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.3	U F1	997	1419	F1	mg/Kg		140	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*143*	*S1+*	*70 - 130*
o-Terphenyl	*113*		*70 - 130*

Lab Sample ID: MB 880-62449/1-A
Matrix: Solid
Analysis Batch: 62397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62449

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/14/23 13:00	09/14/23 19:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/14/23 13:00	09/14/23 19:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/14/23 13:00	09/14/23 19:28	1

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-62449/1-A
Matrix: Solid
Analysis Batch: 62397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62449

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130	09/14/23 13:00	09/14/23 19:28	1
o-Terphenyl	126		70 - 130	09/14/23 13:00	09/14/23 19:28	1

Lab Sample ID: LCS 880-62449/2-A
Matrix: Solid
Analysis Batch: 62397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62449

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	880.2		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	965.1		mg/Kg		97	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: LCSD 880-62449/3-A
Matrix: Solid
Analysis Batch: 62397

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62449

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	969.4		mg/Kg		97	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	780.9	*1	mg/Kg		78	70 - 130	21	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 890-5250-21 MS
Matrix: Solid
Analysis Batch: 62397

Client Sample ID: BES23-100 (1.5)
Prep Type: Total/NA
Prep Batch: 62449

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	997	1281		mg/Kg		126	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.3	U *1	997	1039		mg/Kg		101	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	114		70 - 130

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-5250-21 MSD
Matrix: Solid
Analysis Batch: 62397

Client Sample ID: BES23-100 (1.5)
Prep Type: Total/NA
Prep Batch: 62449

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	997	1205		mg/Kg		118	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<50.3	U *1	997	910.6		mg/Kg		89	70 - 130	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-62289/1-A
Matrix: Solid
Analysis Batch: 62364

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/13/23 11:54	1

Lab Sample ID: LCS 880-62289/2-A
Matrix: Solid
Analysis Batch: 62364

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	242.1		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-62289/3-A
Matrix: Solid
Analysis Batch: 62364

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	242.4		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 880-33016-A-10-G MS
Matrix: Solid
Analysis Batch: 62364

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	104	F1	251	294.6	F1	mg/Kg		76	90 - 110

Lab Sample ID: 880-33016-A-10-H MSD
Matrix: Solid
Analysis Batch: 62364

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	104	F1	251	297.2	F1	mg/Kg		77	90 - 110	1	20

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-62409/1-A
Matrix: Solid
Analysis Batch: 62458

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/14/23 14:11	1

Lab Sample ID: LCS 880-62409/2-A
Matrix: Solid
Analysis Batch: 62458

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	245.7		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-62409/3-A
Matrix: Solid
Analysis Batch: 62458

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	246.0		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 890-5250-1 MS
Matrix: Solid
Analysis Batch: 62458

Client Sample ID: BES23-50 (1.5)
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	133		249	402.6		mg/Kg		108	90 - 110		

Lab Sample ID: 890-5250-1 MSD
Matrix: Solid
Analysis Batch: 62458

Client Sample ID: BES23-50 (1.5)
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	133		249	397.6		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-5250-11 MS
Matrix: Solid
Analysis Batch: 62458

Client Sample ID: BES23-78 (1.5)
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	303	F1	248	475.6	F1	mg/Kg		70	90 - 110		

Lab Sample ID: 890-5250-11 MSD
Matrix: Solid
Analysis Batch: 62458

Client Sample ID: BES23-78 (1.5)
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	303	F1	248	473.2	F1	mg/Kg		69	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

GC VOA

Prep Batch: 62318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-62318/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 62372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-1	BES23-50 (1.5)	Total/NA	Solid	8021B	62435
890-5250-2	BES23-51 (1.5)	Total/NA	Solid	8021B	62435
890-5250-3	BES23-54 (1.5)	Total/NA	Solid	8021B	62435
890-5250-4	BES23-71 (1.5)	Total/NA	Solid	8021B	62435
890-5250-5	BES23-72 (1.5)	Total/NA	Solid	8021B	62435
890-5250-6	BES23-73 (1.5)	Total/NA	Solid	8021B	62435
890-5250-7	BES23-74 (1.5)	Total/NA	Solid	8021B	62435
890-5250-8	BES23-75 (1.5)	Total/NA	Solid	8021B	62435
890-5250-9	BES23-76 (1.5)	Total/NA	Solid	8021B	62435
890-5250-10	BES23-77 (1.5)	Total/NA	Solid	8021B	62435
890-5250-11	BES23-78 (1.5)	Total/NA	Solid	8021B	62435
890-5250-12	BES23-80 (1.5)	Total/NA	Solid	8021B	62435
890-5250-13	BES23-92 (1.5)	Total/NA	Solid	8021B	62435
890-5250-14	BES23-93 (1.5)	Total/NA	Solid	8021B	62435
890-5250-15	BES23-94 (1.5)	Total/NA	Solid	8021B	62435
890-5250-16	BES23-95 (1.5)	Total/NA	Solid	8021B	62435
890-5250-17	BES23-96 (1.5)	Total/NA	Solid	8021B	62435
890-5250-18	BES23-97 (1.5)	Total/NA	Solid	8021B	62435
890-5250-19	BES23-98 (1.5)	Total/NA	Solid	8021B	62435
890-5250-20	BES23-99 (1.5)	Total/NA	Solid	8021B	62435
890-5250-21	BES23-100 (1.5)	Total/NA	Solid	8021B	62437
890-5250-22	BES23-101 (1.5)	Total/NA	Solid	8021B	62437
890-5250-23	BES23-102 (1.5)	Total/NA	Solid	8021B	62437
890-5250-24	BES23-105 (1.5)	Total/NA	Solid	8021B	62437
890-5250-25	BES23-110 (1.5)	Total/NA	Solid	8021B	62437
890-5250-26	WES23-06 (0.-1.5)	Total/NA	Solid	8021B	62437
890-5250-27	WES23-08 (0-4.5)	Total/NA	Solid	8021B	62437
890-5250-28	WES23-12 (0-4.5)	Total/NA	Solid	8021B	62437
890-5250-29	WES23-13 (1.5-4.5)	Total/NA	Solid	8021B	62437
MB 880-62318/5-A	Method Blank	Total/NA	Solid	8021B	62318
MB 880-62435/5-A	Method Blank	Total/NA	Solid	8021B	62435
MB 880-62437/5-A	Method Blank	Total/NA	Solid	8021B	62437
LCS 880-62435/1-A	Lab Control Sample	Total/NA	Solid	8021B	62435
LCS 880-62437/1-A	Lab Control Sample	Total/NA	Solid	8021B	62437
LCSD 880-62435/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	62435
LCSD 880-62437/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	62437
890-5250-1 MS	BES23-50 (1.5)	Total/NA	Solid	8021B	62435
890-5250-1 MSD	BES23-50 (1.5)	Total/NA	Solid	8021B	62435
890-5250-21 MS	BES23-100 (1.5)	Total/NA	Solid	8021B	62437
890-5250-21 MSD	BES23-100 (1.5)	Total/NA	Solid	8021B	62437

Prep Batch: 62435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-1	BES23-50 (1.5)	Total/NA	Solid	5035	
890-5250-2	BES23-51 (1.5)	Total/NA	Solid	5035	
890-5250-3	BES23-54 (1.5)	Total/NA	Solid	5035	
890-5250-4	BES23-71 (1.5)	Total/NA	Solid	5035	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

GC VOA (Continued)

Prep Batch: 62435 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-5	BES23-72 (1.5)	Total/NA	Solid	5035	
890-5250-6	BES23-73 (1.5)	Total/NA	Solid	5035	
890-5250-7	BES23-74 (1.5)	Total/NA	Solid	5035	
890-5250-8	BES23-75 (1.5)	Total/NA	Solid	5035	
890-5250-9	BES23-76 (1.5)	Total/NA	Solid	5035	
890-5250-10	BES23-77 (1.5)	Total/NA	Solid	5035	
890-5250-11	BES23-78 (1.5)	Total/NA	Solid	5035	
890-5250-12	BES23-80 (1.5)	Total/NA	Solid	5035	
890-5250-13	BES23-92 (1.5)	Total/NA	Solid	5035	
890-5250-14	BES23-93 (1.5)	Total/NA	Solid	5035	
890-5250-15	BES23-94 (1.5)	Total/NA	Solid	5035	
890-5250-16	BES23-95 (1.5)	Total/NA	Solid	5035	
890-5250-17	BES23-96 (1.5)	Total/NA	Solid	5035	
890-5250-18	BES23-97 (1.5)	Total/NA	Solid	5035	
890-5250-19	BES23-98 (1.5)	Total/NA	Solid	5035	
890-5250-20	BES23-99 (1.5)	Total/NA	Solid	5035	
MB 880-62435/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-62435/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-62435/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5250-1 MS	BES23-50 (1.5)	Total/NA	Solid	5035	
890-5250-1 MSD	BES23-50 (1.5)	Total/NA	Solid	5035	

Prep Batch: 62437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-21	BES23-100 (1.5)	Total/NA	Solid	5035	
890-5250-22	BES23-101 (1.5)	Total/NA	Solid	5035	
890-5250-23	BES23-102 (1.5)	Total/NA	Solid	5035	
890-5250-24	BES23-105 (1.5)	Total/NA	Solid	5035	
890-5250-25	BES23-110 (1.5)	Total/NA	Solid	5035	
890-5250-26	WES23-06 (0.-1.5)	Total/NA	Solid	5035	
890-5250-27	WES23-08 (0-4.5)	Total/NA	Solid	5035	
890-5250-28	WES23-12 (0-4.5)	Total/NA	Solid	5035	
890-5250-29	WES23-13 (1.5-4.5)	Total/NA	Solid	5035	
MB 880-62437/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-62437/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-62437/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5250-21 MS	BES23-100 (1.5)	Total/NA	Solid	5035	
890-5250-21 MSD	BES23-100 (1.5)	Total/NA	Solid	5035	

Analysis Batch: 62543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-1	BES23-50 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-2	BES23-51 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-3	BES23-54 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-4	BES23-71 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-5	BES23-72 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-6	BES23-73 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-7	BES23-74 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-8	BES23-75 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-9	BES23-76 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-10	BES23-77 (1.5)	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

GC VOA (Continued)

Analysis Batch: 62543 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-11	BES23-78 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-12	BES23-80 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-13	BES23-92 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-14	BES23-93 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-15	BES23-94 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-16	BES23-95 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-17	BES23-96 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-18	BES23-97 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-19	BES23-98 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-20	BES23-99 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-21	BES23-100 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-22	BES23-101 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-23	BES23-102 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-24	BES23-105 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-25	BES23-110 (1.5)	Total/NA	Solid	Total BTEX	
890-5250-26	WES23-06 (0.-1.5)	Total/NA	Solid	Total BTEX	
890-5250-27	WES23-08 (0-4.5)	Total/NA	Solid	Total BTEX	
890-5250-28	WES23-12 (0-4.5)	Total/NA	Solid	Total BTEX	
890-5250-29	WES23-13 (1.5-4.5)	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 62395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-1	BES23-50 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-2	BES23-51 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-3	BES23-54 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-4	BES23-71 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-5	BES23-72 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-6	BES23-73 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-7	BES23-74 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-8	BES23-75 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-9	BES23-76 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-10	BES23-77 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-11	BES23-78 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-12	BES23-80 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-13	BES23-92 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-14	BES23-93 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-15	BES23-94 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-16	BES23-95 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-17	BES23-96 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-18	BES23-97 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-19	BES23-98 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-20	BES23-99 (1.5)	Total/NA	Solid	8015B NM	62448
MB 880-62448/1-A	Method Blank	Total/NA	Solid	8015B NM	62448
LCS 880-62448/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	62448
LCSD 880-62448/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	62448
890-5250-1 MS	BES23-50 (1.5)	Total/NA	Solid	8015B NM	62448
890-5250-1 MSD	BES23-50 (1.5)	Total/NA	Solid	8015B NM	62448

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

GC Semi VOA

Analysis Batch: 62397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-21	BES23-100 (1.5)	Total/NA	Solid	8015B NM	62449
890-5250-22	BES23-101 (1.5)	Total/NA	Solid	8015B NM	62449
890-5250-23	BES23-102 (1.5)	Total/NA	Solid	8015B NM	62449
890-5250-24	BES23-105 (1.5)	Total/NA	Solid	8015B NM	62449
890-5250-25	BES23-110 (1.5)	Total/NA	Solid	8015B NM	62449
890-5250-26	WES23-06 (0.-1.5)	Total/NA	Solid	8015B NM	62449
890-5250-27	WES23-08 (0-4.5)	Total/NA	Solid	8015B NM	62449
890-5250-28	WES23-12 (0-4.5)	Total/NA	Solid	8015B NM	62449
890-5250-29	WES23-13 (1.5-4.5)	Total/NA	Solid	8015B NM	62449
MB 880-62449/1-A	Method Blank	Total/NA	Solid	8015B NM	62449
LCS 880-62449/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	62449
LCSD 880-62449/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	62449
890-5250-21 MS	BES23-100 (1.5)	Total/NA	Solid	8015B NM	62449
890-5250-21 MSD	BES23-100 (1.5)	Total/NA	Solid	8015B NM	62449

Prep Batch: 62448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-1	BES23-50 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-2	BES23-51 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-3	BES23-54 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-4	BES23-71 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-5	BES23-72 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-6	BES23-73 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-7	BES23-74 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-8	BES23-75 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-9	BES23-76 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-10	BES23-77 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-11	BES23-78 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-12	BES23-80 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-13	BES23-92 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-14	BES23-93 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-15	BES23-94 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-16	BES23-95 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-17	BES23-96 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-18	BES23-97 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-19	BES23-98 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-20	BES23-99 (1.5)	Total/NA	Solid	8015NM Prep	
MB 880-62448/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-62448/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-62448/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5250-1 MS	BES23-50 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-1 MSD	BES23-50 (1.5)	Total/NA	Solid	8015NM Prep	

Prep Batch: 62449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-21	BES23-100 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-22	BES23-101 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-23	BES23-102 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-24	BES23-105 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-25	BES23-110 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-26	WES23-06 (0.-1.5)	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

GC Semi VOA (Continued)

Prep Batch: 62449 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-27	WES23-08 (0-4.5)	Total/NA	Solid	8015NM Prep	
890-5250-28	WES23-12 (0-4.5)	Total/NA	Solid	8015NM Prep	
890-5250-29	WES23-13 (1.5-4.5)	Total/NA	Solid	8015NM Prep	
MB 880-62449/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-62449/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-62449/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5250-21 MS	BES23-100 (1.5)	Total/NA	Solid	8015NM Prep	
890-5250-21 MSD	BES23-100 (1.5)	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 62289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-21	BES23-100 (1.5)	Soluble	Solid	DI Leach	
890-5250-22	BES23-101 (1.5)	Soluble	Solid	DI Leach	
890-5250-23	BES23-102 (1.5)	Soluble	Solid	DI Leach	
890-5250-24	BES23-105 (1.5)	Soluble	Solid	DI Leach	
890-5250-25	BES23-110 (1.5)	Soluble	Solid	DI Leach	
890-5250-26	WES23-06 (0.-1.5)	Soluble	Solid	DI Leach	
890-5250-27	WES23-08 (0-4.5)	Soluble	Solid	DI Leach	
890-5250-28	WES23-12 (0-4.5)	Soluble	Solid	DI Leach	
890-5250-29	WES23-13 (1.5-4.5)	Soluble	Solid	DI Leach	
MB 880-62289/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-62289/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-62289/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-33016-A-10-G MS	Matrix Spike	Soluble	Solid	DI Leach	
880-33016-A-10-H MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 62364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-21	BES23-100 (1.5)	Soluble	Solid	300.0	62289
890-5250-22	BES23-101 (1.5)	Soluble	Solid	300.0	62289
890-5250-23	BES23-102 (1.5)	Soluble	Solid	300.0	62289
890-5250-24	BES23-105 (1.5)	Soluble	Solid	300.0	62289
890-5250-25	BES23-110 (1.5)	Soluble	Solid	300.0	62289
890-5250-26	WES23-06 (0.-1.5)	Soluble	Solid	300.0	62289
890-5250-27	WES23-08 (0-4.5)	Soluble	Solid	300.0	62289
890-5250-28	WES23-12 (0-4.5)	Soluble	Solid	300.0	62289
890-5250-29	WES23-13 (1.5-4.5)	Soluble	Solid	300.0	62289
MB 880-62289/1-A	Method Blank	Soluble	Solid	300.0	62289
LCS 880-62289/2-A	Lab Control Sample	Soluble	Solid	300.0	62289
LCSD 880-62289/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	62289
880-33016-A-10-G MS	Matrix Spike	Soluble	Solid	300.0	62289
880-33016-A-10-H MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	62289

Leach Batch: 62409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-1	BES23-50 (1.5)	Soluble	Solid	DI Leach	
890-5250-2	BES23-51 (1.5)	Soluble	Solid	DI Leach	
890-5250-3	BES23-54 (1.5)	Soluble	Solid	DI Leach	
890-5250-4	BES23-71 (1.5)	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

HPLC/IC (Continued)

Leach Batch: 62409 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-5	BES23-72 (1.5)	Soluble	Solid	DI Leach	
890-5250-6	BES23-73 (1.5)	Soluble	Solid	DI Leach	
890-5250-7	BES23-74 (1.5)	Soluble	Solid	DI Leach	
890-5250-8	BES23-75 (1.5)	Soluble	Solid	DI Leach	
890-5250-9	BES23-76 (1.5)	Soluble	Solid	DI Leach	
890-5250-10	BES23-77 (1.5)	Soluble	Solid	DI Leach	
890-5250-11	BES23-78 (1.5)	Soluble	Solid	DI Leach	
890-5250-12	BES23-80 (1.5)	Soluble	Solid	DI Leach	
890-5250-13	BES23-92 (1.5)	Soluble	Solid	DI Leach	
890-5250-14	BES23-93 (1.5)	Soluble	Solid	DI Leach	
890-5250-15	BES23-94 (1.5)	Soluble	Solid	DI Leach	
890-5250-16	BES23-95 (1.5)	Soluble	Solid	DI Leach	
890-5250-17	BES23-96 (1.5)	Soluble	Solid	DI Leach	
890-5250-18	BES23-97 (1.5)	Soluble	Solid	DI Leach	
890-5250-19	BES23-98 (1.5)	Soluble	Solid	DI Leach	
890-5250-20	BES23-99 (1.5)	Soluble	Solid	DI Leach	
MB 880-62409/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-62409/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-62409/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5250-1 MS	BES23-50 (1.5)	Soluble	Solid	DI Leach	
890-5250-1 MSD	BES23-50 (1.5)	Soluble	Solid	DI Leach	
890-5250-11 MS	BES23-78 (1.5)	Soluble	Solid	DI Leach	
890-5250-11 MSD	BES23-78 (1.5)	Soluble	Solid	DI Leach	

Analysis Batch: 62458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-1	BES23-50 (1.5)	Soluble	Solid	300.0	62409
890-5250-2	BES23-51 (1.5)	Soluble	Solid	300.0	62409
890-5250-3	BES23-54 (1.5)	Soluble	Solid	300.0	62409
890-5250-4	BES23-71 (1.5)	Soluble	Solid	300.0	62409
890-5250-5	BES23-72 (1.5)	Soluble	Solid	300.0	62409
890-5250-6	BES23-73 (1.5)	Soluble	Solid	300.0	62409
890-5250-7	BES23-74 (1.5)	Soluble	Solid	300.0	62409
890-5250-8	BES23-75 (1.5)	Soluble	Solid	300.0	62409
890-5250-9	BES23-76 (1.5)	Soluble	Solid	300.0	62409
890-5250-10	BES23-77 (1.5)	Soluble	Solid	300.0	62409
890-5250-11	BES23-78 (1.5)	Soluble	Solid	300.0	62409
890-5250-12	BES23-80 (1.5)	Soluble	Solid	300.0	62409
890-5250-13	BES23-92 (1.5)	Soluble	Solid	300.0	62409
890-5250-14	BES23-93 (1.5)	Soluble	Solid	300.0	62409
890-5250-15	BES23-94 (1.5)	Soluble	Solid	300.0	62409
890-5250-16	BES23-95 (1.5)	Soluble	Solid	300.0	62409
890-5250-17	BES23-96 (1.5)	Soluble	Solid	300.0	62409
890-5250-18	BES23-97 (1.5)	Soluble	Solid	300.0	62409
890-5250-19	BES23-98 (1.5)	Soluble	Solid	300.0	62409
890-5250-20	BES23-99 (1.5)	Soluble	Solid	300.0	62409
MB 880-62409/1-A	Method Blank	Soluble	Solid	300.0	62409
LCS 880-62409/2-A	Lab Control Sample	Soluble	Solid	300.0	62409
LCSD 880-62409/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	62409
890-5250-1 MS	BES23-50 (1.5)	Soluble	Solid	300.0	62409
890-5250-1 MSD	BES23-50 (1.5)	Soluble	Solid	300.0	62409

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

HPLC/IC (Continued)

Analysis Batch: 62458 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5250-11 MS	BES23-78 (1.5)	Soluble	Solid	300.0	62409
890-5250-11 MSD	BES23-78 (1.5)	Soluble	Solid	300.0	62409

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-50 (1.5)
Date Collected: 09/12/23 09:00
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 18:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/14/23 20:32	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 14:30	SMC	EET MID

Client Sample ID: BES23-51 (1.5)
Date Collected: 09/12/23 09:05
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 18:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/14/23 21:36	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 14:49	SMC	EET MID

Client Sample ID: BES23-54 (1.5)
Date Collected: 09/12/23 09:10
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 18:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/14/23 21:57	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 14:55	SMC	EET MID

Client Sample ID: BES23-71 (1.5)
Date Collected: 09/12/23 09:15
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 19:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/14/23 22:18	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-71 (1.5)
Date Collected: 09/12/23 09:15
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 15:02	SMC	EET MID

Client Sample ID: BES23-72 (1.5)
Date Collected: 09/12/23 09:20
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 19:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/14/23 22:39	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 15:08	SMC	EET MID

Client Sample ID: BES23-73 (1.5)
Date Collected: 09/12/23 09:25
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 19:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/14/23 23:01	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 15:27	SMC	EET MID

Client Sample ID: BES23-74 (1.5)
Date Collected: 09/12/23 09:30
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 20:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/14/23 23:22	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 15:34	SMC	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-75 (1.5)
Date Collected: 09/12/23 09:35
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 20:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/14/23 23:44	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 15:40	SMC	EET MID

Client Sample ID: BES23-76 (1.5)
Date Collected: 09/12/23 09:40
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 20:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 00:05	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 15:47	SMC	EET MID

Client Sample ID: BES23-77 (1.5)
Date Collected: 09/12/23 09:45
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 21:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 00:26	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 15:53	SMC	EET MID

Client Sample ID: BES23-78 (1.5)
Date Collected: 09/12/23 09:50
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 23:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 01:09	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-78 (1.5)
Date Collected: 09/12/23 09:50
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 15:59	SMC	EET MID

Client Sample ID: BES23-80 (1.5)
Date Collected: 09/12/23 09:55
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 23:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 01:30	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 18:25	SMC	EET MID

Client Sample ID: BES23-92 (1.5)
Date Collected: 09/12/23 10:00
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/14/23 23:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 01:51	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 16:25	SMC	EET MID

Client Sample ID: BES23-93 (1.5)
Date Collected: 09/12/23 10:05
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 00:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 02:12	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 16:44	SMC	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-94 (1.5)
Date Collected: 09/12/23 10:10
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 00:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 02:34	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 16:50	SMC	EET MID

Client Sample ID: BES23-95 (1.5)
Date Collected: 09/12/23 10:15
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 00:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 02:55	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 16:57	SMC	EET MID

Client Sample ID: BES23-96 (1.5)
Date Collected: 09/12/23 10:20
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 01:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 03:17	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 17:03	SMC	EET MID

Client Sample ID: BES23-97 (1.5)
Date Collected: 09/12/23 10:25
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 01:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 03:38	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-97 (1.5)
Date Collected: 09/12/23 10:25
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 17:10	SMC	EET MID

Client Sample ID: BES23-98 (1.5)
Date Collected: 09/12/23 10:30
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 01:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 03:59	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 17:16	SMC	EET MID

Client Sample ID: BES23-99 (1.5)
Date Collected: 09/12/23 10:35
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	62435	09/14/23 11:52	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 02:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	62448	09/14/23 12:57	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62395	09/15/23 04:21	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	62409	09/14/23 08:47	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62458	09/14/23 17:22	SMC	EET MID

Client Sample ID: BES23-100 (1.5)
Date Collected: 09/12/23 10:40
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	62437	09/14/23 12:07	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 05:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	62449	09/14/23 13:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62397	09/14/23 20:32	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	62289	09/14/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1			62364	09/14/23 14:50	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-101 (1.5)
Date Collected: 09/12/23 10:45
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	62437	09/14/23 12:07	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 06:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	62449	09/14/23 13:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62397	09/14/23 21:36	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	62289	09/14/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1			62364	09/14/23 14:56	CH	EET MID

Client Sample ID: BES23-102 (1.5)
Date Collected: 09/12/23 10:50
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	62437	09/14/23 12:07	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 06:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	62449	09/14/23 13:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62397	09/14/23 21:57	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	62289	09/14/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1			62364	09/14/23 15:03	CH	EET MID

Client Sample ID: BES23-105 (1.5)
Date Collected: 09/12/23 10:55
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	62437	09/14/23 12:07	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 06:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	62449	09/14/23 13:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62397	09/14/23 22:18	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	62289	09/14/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1			62364	09/14/23 15:10	CH	EET MID

Client Sample ID: BES23-110 (1.5)
Date Collected: 09/12/23 11:00
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	62437	09/14/23 12:07	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 07:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	62449	09/14/23 13:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62397	09/14/23 22:39	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: BES23-110 (1.5)
Date Collected: 09/12/23 11:00
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	62289	09/14/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1			62364	09/14/23 15:16	CH	EET MID

Client Sample ID: WES23-06 (0.-1.5)
Date Collected: 09/12/23 11:05
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-26
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	62437	09/14/23 12:07	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 07:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	62449	09/14/23 13:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62397	09/14/23 23:01	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	62289	09/14/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1			62364	09/14/23 15:23	CH	EET MID

Client Sample ID: WES23-08 (0-4.5)
Date Collected: 09/12/23 11:10
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-27
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	62437	09/14/23 12:07	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 07:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	62449	09/14/23 13:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62397	09/14/23 23:22	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	62289	09/14/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1			62364	09/14/23 15:30	CH	EET MID

Client Sample ID: WES23-12 (0-4.5)
Date Collected: 09/12/23 11:15
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-28
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	62437	09/14/23 12:07	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 08:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	62449	09/14/23 13:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62397	09/14/23 23:44	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	62289	09/14/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1			62364	09/14/23 15:36	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Client Sample ID: WES23-13 (1.5-4.5)

Date Collected: 09/12/23 11:20
Date Received: 09/12/23 15:12

Lab Sample ID: 890-5250-29

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	62437	09/14/23 12:07	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62372	09/15/23 08:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62543	09/15/23 09:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	62449	09/14/23 13:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62397	09/15/23 00:05	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	62289	09/14/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1			62364	09/14/23 15:43	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

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
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5250-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-5250-1	BES23-50 (1.5)	Solid	09/12/23 09:00	09/12/23 15:12
890-5250-2	BES23-51 (1.5)	Solid	09/12/23 09:05	09/12/23 15:12
890-5250-3	BES23-54 (1.5)	Solid	09/12/23 09:10	09/12/23 15:12
890-5250-4	BES23-71 (1.5)	Solid	09/12/23 09:15	09/12/23 15:12
890-5250-5	BES23-72 (1.5)	Solid	09/12/23 09:20	09/12/23 15:12
890-5250-6	BES23-73 (1.5)	Solid	09/12/23 09:25	09/12/23 15:12
890-5250-7	BES23-74 (1.5)	Solid	09/12/23 09:30	09/12/23 15:12
890-5250-8	BES23-75 (1.5)	Solid	09/12/23 09:35	09/12/23 15:12
890-5250-9	BES23-76 (1.5)	Solid	09/12/23 09:40	09/12/23 15:12
890-5250-10	BES23-77 (1.5)	Solid	09/12/23 09:45	09/12/23 15:12
890-5250-11	BES23-78 (1.5)	Solid	09/12/23 09:50	09/12/23 15:12
890-5250-12	BES23-80 (1.5)	Solid	09/12/23 09:55	09/12/23 15:12
890-5250-13	BES23-92 (1.5)	Solid	09/12/23 10:00	09/12/23 15:12
890-5250-14	BES23-93 (1.5)	Solid	09/12/23 10:05	09/12/23 15:12
890-5250-15	BES23-94 (1.5)	Solid	09/12/23 10:10	09/12/23 15:12
890-5250-16	BES23-95 (1.5)	Solid	09/12/23 10:15	09/12/23 15:12
890-5250-17	BES23-96 (1.5)	Solid	09/12/23 10:20	09/12/23 15:12
890-5250-18	BES23-97 (1.5)	Solid	09/12/23 10:25	09/12/23 15:12
890-5250-19	BES23-98 (1.5)	Solid	09/12/23 10:30	09/12/23 15:12
890-5250-20	BES23-99 (1.5)	Solid	09/12/23 10:35	09/12/23 15:12
890-5250-21	BES23-100 (1.5)	Solid	09/12/23 10:40	09/12/23 15:12
890-5250-22	BES23-101 (1.5)	Solid	09/12/23 10:45	09/12/23 15:12
890-5250-23	BES23-102 (1.5)	Solid	09/12/23 10:50	09/12/23 15:12
890-5250-24	BES23-105 (1.5)	Solid	09/12/23 10:55	09/12/23 15:12
890-5250-25	BES23-110 (1.5)	Solid	09/12/23 11:00	09/12/23 15:12
890-5250-26	WES23-06 (0.-1.5)	Solid	09/12/23 11:05	09/12/23 15:12
890-5250-27	WES23-08 (0-4.5)	Solid	09/12/23 11:10	09/12/23 15:12
890-5250-28	WES23-12 (0-4.5)	Solid	09/12/23 11:15	09/12/23 15:12
890-5250-29	WES23-13 (1.5-4.5)	Solid	09/12/23 11:20	09/12/23 15:12

Released to Imaging: 3/19/2024 9:29:09 AM
Received by OCD: 10/13/2023 12:00:18 AM

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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

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		cdixon@vertex.ca

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☐ Routine ☒ Rush 24hr	
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TRM 007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	~~0.0~~ 0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.8
Total Containers:		Corrected Temperature:	2.6

ANALYSIS REQUEST

890-5250 Chain of Custody

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	Grab/ Comp	# of Cont	TPH	BTEX	Cl	Sample Comments
BES23-50 1.5'	Soil	9/12/23	9:00		5		X	X	X	
BES23-51 1.5'			9:05							
BES23-54 1.5'			9:10							
BES23-71 1.5'			9:15							
BES23-72 1.5'			9:20							
BES23-73 1.5'			9:25							
BES23-74 1.5'			9:30							
BES23-75 1.5'			9:35							
BES23-76 1.5'			9:40							
BES23-77 1.5'			9:45							

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 Hunter Klein		9-12 15:12	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev. 2020.2

Released to Imaging: 3/19/2024 9:29:09 AM
Received by OCD: 10/13/2023 12:00:18 AM

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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

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		cdixon@vertex.ca

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Carlsbon SWD	Turn Around	
Project Number:	23E-03626	☐ Routine ☒ Rush 24hr	Pres. Code
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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_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	Grab/ Comp	# of Cont	TPH	BTEX	Cl	Sample Comments
BES23-78	1.5'	Soil	9/12/23	9:50		Comp	5	X	X	X	
BES23-80	1.5'			9:55							
BES23-92	1.5'			10:00							
BES23-93	1.5'			10:05							
BES23-94	1.5'			10:10							
BES23-95	1.5'			10:15							
BES23-96	1.5'			10:20							
BES23-97	1.5'			10:25							
BES23-98	1.5'			10:30							
BES23-99	1.5'			10:35							

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Hunter Klein		9-12 15:12	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Released to Imaging: 3/19/2024 9:29:09 AM
Received by OCD: 10/13/2023 12:00:18 AM

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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

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:	cdixon@vertex.cg	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Carleton SWD	Turn Around	
Project Number:	23E-03626	☐ Routine ☒ Rush 72hr	Pres. Code
Project Location:		Due Date:	
Sampler's Name:	Hunter Klein	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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_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	Grab/ Comp	# of Cont	Parameters: TPH	Cl	BTEX	Sample Comments
BES23-100 4.5'	Soil	9/12/23	10:40		5		X	X	X	
BES23-101 4.5'			10:45							
BES23-102 4.5'			10:50							
BES23-105 1.5'			10:55							
BES23-110 1.5'			11:00							
WES23-06 0-1.5'			11:05							
WES23-04 0-1.5-4'			11:10							
WES23-12 0-4.5'			11:15							
WES23-13 1.5-4.5'			11:20							

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
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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Hunter Klein		9-12 15:12	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5250-1
SDG Number: 23E-03626

Login Number: 5250
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5250-1
SDG Number: 23E-03626

Login Number: 5250
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 09/14/23 11:34 AM

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.	True	
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	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 9/20/2023 12:28:11 PM

JOB DESCRIPTION

Carleton SWD
SDG NUMBER 23E-03626

JOB NUMBER

890-5284-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2024 9:29:09 AM

my EOL

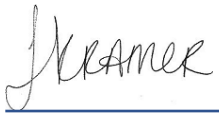
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
9/20/2023 12:28:11 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: Carleton SWD

Laboratory Job ID: 890-5284-1
SDG: 23E-03626

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Definitions/Glossary

Client: Vertex Job ID: 890-5284-1
Project/Site: Carleton SWD SDG: 23E-03626

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

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/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Job ID: 890-5284-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5284-1

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 9/18/2023 9:39 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 2.4°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: BES23-62 1.5' (890-5284-1).

GC VOA
Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-62541 and analytical batch 880-62782 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-5282-A-8-C), (890-5282-A-8-D MS) and (890-5282-A-8-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BES23-62 1.5' (890-5284-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Client Sample ID: BES23-62 1.5'

Date Collected: 09/15/23 03:30
Date Received: 09/18/23 09:39
Sample Depth: 1.5

Lab Sample ID: 890-5284-1

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/19/23 08:28	09/19/23 18:19	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/19/23 08:28	09/19/23 18:19	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/19/23 08:28	09/19/23 18:19	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/19/23 08:28	09/19/23 18:19	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/19/23 08:28	09/19/23 18:19	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/19/23 08:28	09/19/23 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*09/19/23 08:28*	*09/19/23 18:19*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*09/19/23 08:28*	*09/19/23 18:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/19/23 18:19	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**55.9**		49.8		mg/Kg			09/19/23 18:26	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		09/19/23 12:28	09/19/23 18:26	1
Diesel Range Organics (Over C10-C28)	**55.9**		49.8		mg/Kg		09/19/23 12:28	09/19/23 18:26	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/19/23 12:28	09/19/23 18:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*143*	*S1+*	*70 - 130*	*09/19/23 12:28*	*09/19/23 18:26*	*1*
o-Terphenyl	*166*	*S1+*	*70 - 130*	*09/19/23 12:28*	*09/19/23 18:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34.1**		4.99		mg/Kg			09/19/23 20:47	1

Surrogate Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-33305-A-6-B MS	Matrix Spike	107	104										
880-33305-A-6-C MSD	Matrix Spike Duplicate	107	106										
890-5284-1	BES23-62 1.5'	73	87										
LCS 880-62541/1-A	Lab Control Sample	116	112										
LCSD 880-62541/2-A	Lab Control Sample Dup	110	90										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-5282-A-8-D MS	Matrix Spike	137 S1+	140 S1+										
890-5282-A-8-E MSD	Matrix Spike Duplicate	140 S1+	142 S1+										
890-5284-1	BES23-62 1.5'	143 S1+	166 S1+										
LCS 880-62823/2-A	Lab Control Sample	101	115										
LCSD 880-62823/3-A	Lab Control Sample Dup	93	106										
MB 880-62823/1-A	Method Blank	77	88										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: LCS 880-62541/1-A
Matrix: Solid
Analysis Batch: 62782

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62541

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1062		mg/Kg		106	70 - 130		
Ethylbenzene			0.100	0.1028		mg/Kg		103	70 - 130		
Toluene			0.100	0.1023		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene			0.200	0.2178		mg/Kg		109	70 - 130		
o-Xylene			0.100	0.1078		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: LCSD 880-62541/2-A
Matrix: Solid
Analysis Batch: 62782

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62541

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09618		mg/Kg		96	70 - 130	10	35
Ethylbenzene			0.100	0.09798		mg/Kg		98	70 - 130	5	35
Toluene			0.100	0.1020		mg/Kg		102	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2068		mg/Kg		103	70 - 130	5	35
o-Xylene			0.100	0.1022		mg/Kg		102	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: 880-33305-A-6-B MS
Matrix: Solid
Analysis Batch: 62782

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 62541

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.08730		mg/Kg		87	70 - 130		
Ethylbenzene	<0.00200	U F1	0.0998	0.07481		mg/Kg		75	70 - 130		
Toluene	<0.00200	U F1	0.0998	0.07313		mg/Kg		73	70 - 130		
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.1545		mg/Kg		77	70 - 130		
o-Xylene	<0.00200	U F1	0.0998	0.07608		mg/Kg		76	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-33305-A-6-C MSD
Matrix: Solid
Analysis Batch: 62782

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 62541

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.101	0.07432		mg/Kg		74	70 - 130	16	35
Ethylbenzene	<0.00200	U F1	0.101	0.05978	F1	mg/Kg		59	70 - 130	22	35
Toluene	<0.00200	U F1	0.101	0.05604	F1	mg/Kg		55	70 - 130	26	35

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-33305-A-6-C MSD
Matrix: Solid
Analysis Batch: 62782

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 62541

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Xylene & p-Xylene	<0.00399	U F1	0.202	0.1261	F1	mg/Kg		62	70 - 130	20	35
o-Xylene	<0.00200	U F1	0.101	0.06496	F1	mg/Kg		64	70 - 130	16	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-62823/1-A
Matrix: Solid
Analysis Batch: 62775

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/19/23 08:00	09/19/23 08:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/19/23 08:00	09/19/23 08:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/19/23 08:00	09/19/23 08:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*09/19/23 08:00*	*09/19/23 08:41*	*1*
o-Terphenyl	*88*		*70 - 130*	*09/19/23 08:00*	*09/19/23 08:41*	*1*

Lab Sample ID: LCS 880-62823/2-A
Matrix: Solid
Analysis Batch: 62775

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62823

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	918.8		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	991.0		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Lab Sample ID: LCSD 880-62823/3-A
Matrix: Solid
Analysis Batch: 62775

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62823

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	934.1		mg/Kg		93	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	914.9		mg/Kg		91	70 - 130	8	20

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-62823/3-A
Matrix: Solid
Analysis Batch: 62775

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62823

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	106		70 - 130

Lab Sample ID: 890-5282-A-8-D MS
Matrix: Solid
Analysis Batch: 62775

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 62823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	997	910.8		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	57.6		997	1124		mg/Kg		107	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	137	S1+	70 - 130
o-Terphenyl	140	S1+	70 - 130

Lab Sample ID: 890-5282-A-8-E MSD
Matrix: Solid
Analysis Batch: 62775

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 62823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	997	948.4		mg/Kg		91	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	57.6		997	1137		mg/Kg		108	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	140	S1+	70 - 130
o-Terphenyl	142	S1+	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-62808/1-A
Matrix: Solid
Analysis Batch: 62873

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/19/23 20:12	1

Lab Sample ID: LCS 880-62808/2-A
Matrix: Solid
Analysis Batch: 62873

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	248.5		mg/Kg		99	90 - 110

QC Sample Results

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-62808/3-A
Matrix: Solid
Analysis Batch: 62873

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	248.2		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-33386-A-1-E MS
Matrix: Solid
Analysis Batch: 62873

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	104		251	345.0		mg/Kg		96	90 - 110		

Lab Sample ID: 880-33386-A-1-F MSD
Matrix: Solid
Analysis Batch: 62873

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	104		251	345.5		mg/Kg		96	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

GC VOA

Prep Batch: 62541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-62541/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-62541/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-33305-A-6-B MS	Matrix Spike	Total/NA	Solid	5035	
880-33305-A-6-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 62721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5284-1	BES23-62 1.5'	Total/NA	Solid	5035	
MB 880-62721/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-62721/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-62721/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 62782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5284-1	BES23-62 1.5'	Total/NA	Solid	8021B	62721
MB 880-62721/5-A	Method Blank	Total/NA	Solid	Total BTEX	62721
LCS 880-62541/1-A	Lab Control Sample	Total/NA	Solid	8021B	62541
LCS 880-62721/1-A	Lab Control Sample	Total/NA	Solid	Total BTEX	62721
LCSD 880-62541/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	62541
LCSD 880-62721/2-A	Lab Control Sample Dup	Total/NA	Solid	Total BTEX	62721
880-33305-A-6-B MS	Matrix Spike	Total/NA	Solid	8021B	62541
880-33305-A-6-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	62541

Analysis Batch: 62914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5284-1	BES23-62 1.5'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 62775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5284-1	BES23-62 1.5'	Total/NA	Solid	8015B NM	62823
MB 880-62823/1-A	Method Blank	Total/NA	Solid	8015B NM	62823
LCS 880-62823/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	62823
LCSD 880-62823/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	62823
890-5282-A-8-D MS	Matrix Spike	Total/NA	Solid	8015B NM	62823
890-5282-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	62823

Prep Batch: 62823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5284-1	BES23-62 1.5'	Total/NA	Solid	8015NM Prep	
MB 880-62823/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-62823/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-62823/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5282-A-8-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5282-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 62891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5284-1	BES23-62 1.5'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

HPLC/IC

Leach Batch: 62808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5284-1	BES23-62 1.5'	Soluble	Solid	DI Leach	
MB 880-62808/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-62808/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-62808/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-33386-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-33386-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 62873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5284-1	BES23-62 1.5'	Soluble	Solid	300.0	62808
MB 880-62808/1-A	Method Blank	Soluble	Solid	300.0	62808
LCS 880-62808/2-A	Lab Control Sample	Soluble	Solid	300.0	62808
LCSD 880-62808/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	62808
880-33386-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	62808
880-33386-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	62808

Lab Chronicle

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Client Sample ID: BES23-62 1.5'

Date Collected: 09/15/23 03:30
Date Received: 09/18/23 09:39

Lab Sample ID: 890-5284-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	62721	09/19/23 08:28	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	62782	09/19/23 18:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			62914	09/19/23 18:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			62891	09/19/23 18:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	62823	09/19/23 12:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	62775	09/19/23 18:26	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	62808	09/19/23 11:25	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	62873	09/19/23 20:47	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: Carleton SWD

Job ID: 890-5284-1
SDG: 23E-03626

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5284-1	BES23-62 1.5'	Solid	09/15/23 03:30	09/18/23 09:39	1.5

Released to Imaging: 3/19/2024 9:29:09 AM
Received by OCD: 10/13/2023 12:00:18 AM

eurofins | Environment Testing Xenco

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon	Bill to: (if different)	Rob Kirk
Company Name:	Vertex	Company Name:	Solaris
Address:	On File	Address:	On File
City, State ZIP:		City, State ZIP:	
Phone:		Email:	cdixon@vertex.ca

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Carlton SWD	Turn Around	
Project Number:	23E-03626	☐ Routine ☑ Rush	
Project Location:	Carlton	Due Date:	9/20/23
Sampler's Name:	HK	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#067
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.6
Total Containers:		Corrected Temperature:	2.4

ANALYSIS REQUEST

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

890-5284 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX 8015	TPH 8021	Cl	Sample Comments
BES23-6Z 1.5'	Soil	9/15/23	3:30	1.5'	✓			✓	✓	✓	

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		9:18 9:39	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5284-1
SDG Number: 23E-03626

Login Number: 5284
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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.	N/A	Refer to Job Narrative for details.
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: 890-5284-1
SDG Number: 23E-03626

Login Number: 5284
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/19/23 10:55 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	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 275143

CONDITIONS

Operator: SOLARIS WATER MIDSTREAM, LLC 9651 Katy Fwy Houston, TX 77024	OGRID: 371643
	Action Number: 275143
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation closure approved.	3/19/2024
amaxwell	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	3/19/2024