From: Beggs, Tauren R - DNR
Sent: Monday, October 23, 2023 12:45 PM
To: Hatami, Jiyan
Cc: Byers, Harris; Woelmer, Jacob
Subject: RE: Characterization of Proposed Granular Fill - River Point District; Manitowoc, WI

Good afternoon Jiyan,

Taking a quick look at the results for the soil samples collected, they are below residual contaminant levels (RCLs) and/or applicable background threshold values (BTVs), so appear to be suitable for use in the rights-of-way.

Regards,

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Tauren R. Beggs
Phone: (920) 510-3472
Tauren.Beggs@wisconsin.gov (preferred contact method during work at home)

From: Hatami, Jiyan <Jiyan.Hatami@stantec.com>
Sent: Friday, October 20, 2023 3:21 PM
To: Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>
Cc: Byers, Harris <Harris.Byers@stantec.com>; Woelmer, Jacob <Jacob.Woelmer@stantec.com>
Subject: Characterization of Proposed Granular Fill - River Point District; Manitowoc, WI

Hello again Tauren,

Stantec is proposing the import of approximately 7,000 cubic yards of granular material from an offsite source to construct the soil engineered barrier to facilitate development of the River Point Drive rights-of-way extension at the River Point District in Manitowoc, WI. Can you please review the attached letter report summarizing analytical results of the granular material and provide your unofficial concurrence? Please let me know if you have any questions or require further information.

Thank you for your time and have a great weekend!

Sincerely,

Jiyan Hatami M.S.
Hydrogeologic Specialist
Pronouns: he/him

Mobile: 262-278-9154
Jiyan.Hatami@stantec.com

Stantec
12080 Corporate Parkway Suite 200
Mequon WI 53092-2661

Stantec Consulting Services Inc.
12080 Corporate Parkway, Suite 200
Mequon WI 53092-2661

October 20, 2023

Project/File: 193805515

Attention: Mr. Tauren Beggs
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, Wisconsin 54313

Reference: Characterization of Granular Fill
Proposed River Point Drive Rights-of-Way Extension
River Point District, Manitowoc, Wisconsin
BRRTS #'s 02-36-585591 & 07-36-583000

Dear Mr. Beggs,

On behalf of the Community Development Authority (CDA) of the City of Manitowoc (the "City"), Stantec Consulting Services Inc. (Stantec) prepared this letter report summarizing the characterization of stockpiled granular fill proposed for use in constructing the soil engineered barrier in the River Point Drive rights-of-way (ROW) extension, located within the River Point District in Manitowoc, Wisconsin. The location of the River Point Drive ROW (outlined in white), Phase II Redevelopment Area (outlined in black) and the greater River Point District (outlined in yellow) relative to proposed reuses are illustrated on **Figure 1**.

Open associated Bureau for Remediation and Redevelopment Tracking System (BRRTS) activity numbers associated with the River Point District project are:

- 02-36-585591 River Point District (Environmental Repair Program; ERP), and
- 07-36-583000 (LGU).

Background

As described in the Stantec (2023) Analysis of Brownfield Cleanup Alternatives (ABCA), 7,000 cubic yards of clean granular fill is needed to construct the soil engineered barrier to facilitate construction of the River Point Drive ROW extension (Figure 1). Although this material will ultimately be capped with a hardscaped finish, to be protective of human health, the granular material must be characterized prior to import/use at the River Point District. The granular material targeted for this work is currently stockpiled at the Vinton Construction Company (Vinton) storage yard.

The extent of the proposed granular fill targeted for import/use to facilitate River Point Drive ROW development is illustrated on the River Point Drive Fill grading plan provided as **Figure 2.** In summary, a minimum of three feet of imported granular material will be used in constructing the soil engineered barrier in the ROW during the Fall of 2023, allowing sufficient time for settling prior to installation of new utilities and construction of the hardscaped surface in the River Point Drive ROW in the Spring of 2024.

Soil Sampling Methods

On October 12, 2023, Stantec personnel collected one soil sample from three piles of stockpiled material at the Vinton storage yard. The stockpiled material is a reasonably homogenized mixture of apparent crushed quarry stone and sand. Vinton personnel indicated the material had been sourced from a nearby road project. Samples were collected using a hand trowel, and sampling equipment was decontaminated prior to arriving onsite and between sample locations to prevent sample cross-contamination. Soil samples were directly placed in laboratory-supplied containers, preserved as appropriate, stored on ice and submitted under chain-

Reference: Characterization of Granular Fill: Proposed River Point Drive ROW Extension; River Point District, Manitowoc, Wisconsin
BRRTS #'s 02-36-585591 & 07-36-583000

of-custody procedures to a State of Wisconsin certified laboratory (Eurofins Environmental Testing North Central, LLC; University Park, Illinois) for volatile organic compounds (VOCs) (EPA 8260C), polycyclic aromatic hydrocarbons (PAH; EPA 8270D), and/or Resource Conservation and Recovery Act metals (RCRA metals; EPA 6010C, 7471B) analyses. The laboratory analytical report is provided as **Attachment A.**

Soil Laboratory Analytical Results

Laboratory analytical results are compared to health-based Chapter NR720 Residual Contaminant Levels (RCL) and summarized on **Table 1**. In summary, with the exception of arsenic, no constituents were detected at concentrations exceeding the most conservative applicable health-based RCLs. The concentrations of arsenic are all less than the soil background threshold value suggesting the arsenic is likely naturally occurring and not the result of a spill.

Recommendation

Given the laboratory analytical results discussed above, the environmental quality of this granular material appears appropriate for use in constructing the soil engineered barrier to facilitate development of the River Point Drive ROW located within the River Point District in Manitowoc, Wisconsin.

Stantec requests WDNR concurrence with this recommendation. Please contact me if you have any questions pertaining to this plan.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Jiyan Hatami
Contaminant Hydrogeologist
(262) 278-9154
Jiyan.Hatami@stantec.com

Harris L. Byers, Ph.D.
Sr. Brownfield Project Manager
(414) 581-6476
harris.byers@stantec.com

Enclosures:
Figures
Table
Attachment A – Analytical Laboratory Report

References:
Stantec, 2023. Analysis of Brownfield Cleanup Alternatives, Phase 2 Redevelopment Area, July 18, 2023.

Limitations:
The conclusions in this letter are Stantec's professional opinion, as of the time of the letter, and concerning the scope described in the letter. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The letter relates solely to the specific project for which Stantec was retained and the stated purpose for which the letter was prepared. The letter is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Reference: Characterization of Granular Fill: Proposed River Point Drive ROW Extension; River Point District, Manitowoc, Wisconsin
BRRTS #'s 02-36-585591 & 07-36-583000

Stantec has assumed all information received from the City/CDA and third parties in the preparation of the letter to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This letter is intended solely for use by the City/CDA in accordance with Stantec's contract. While the letter may be provided to applicable authorities having jurisdiction and others for whom the City/CDA is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

FIGURES

Figure No.
1

Title
Proposed Reuse and Proposed Engineered Barriers/Caps

Client/Project
Phase 2 Redevelopment Area Site Investigation
River Point District
City of Manitowoc

0 130 260 Feet

Prepared by HLB on 5/8/2023

Granular fill to be placed under River Point Drive roadway

Approximate Location of River Point Drive ROW Extension

Legend

N

- River Point District
- Phase 2 Redevelopment

Proposed Redevelopments

- Town Homes (2025-2026)
- Town Homes (2024-2025)
- Commercial (Finished)
- Multi-Family (Finishing 2022)
- Roadway (2021-2024)
- Landscaping (2023-2025)
- Floating Dock and Pier (2023)
- Multi-Family Residential (2023-2024)
- Sidewalk (2024-2025)
- River Walk / Park (2023-2024)
- Proposed Commercial (2025-2026)
- Future Commercial (2024-2025)

Notes
1. Coordinate System: NAD 1983 HARN WISCRS Manitowoc County Feet
2. Orthophotograph: Manitowoc County, 2020

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THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC ARCHITECTURE INC. AT ONCE. THE COPYRIGHTS TO ALL DESIGNS AND DRAWINGS ARE THE PROPERTY OF STANTEC. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Figure 2: River Point Drive Grading Plan (Adapted from River Point Drive Fill Bid Set)

SAWCUT 290 LF OF ASPHALT

DEMO 5,328 SF OF ASPHALT

PLACE AND COMPACT 7,230 CY OF GRANULAR FILL TO 95% COMPACTION

SEE SECTION VIEW A

EXCAVATE AND HAUL HISTORIC FILL (POSSIBLE OXIDE BOX WASTE) TO THE LANDFILL; BACKFILL TO GRADE WITH PROPOSED FILL CONTRACTOR IS RESPONSIBLE FOR THEIR OWN HASP

REMOVE EXISTING CONCRETE FOUNDATION, ESTIMATED 9' DEPTH

ABANDONED WATER LINE

585 590 589 588 587 586 585 584 592 591

N

0 30' 60'

LEGEND

- 952 EXISTING CONTOUR MINOR
- 950 EXISTING CONTOUR MAJOR
- 952 PROPOSED CONTOUR MINOR
- 950 PROPOSED CONTOUR MAJOR

Stantec
12080 N. Corporate Parkway, Suite 200
Mequon, WI 53092
www.stantec.com

GRADING PLAN PHASE 1

RIVERPOINT DRIVE - FILL
MANITOWOC
MANITOWOC, WISCONSIN

DATE OF ISSUANCE
September 20, 2023

NO	REVISION	DATE

SURVEY	CORNER POINT
DRAWN	MSC
DESIGNED	MSC
CHECKED	JAW
APPROVED	JAW
PROJ. NO.	193805824

SHEET NUMBER
C3.00

Plot Date: 09/20/2023 - 10:14am
Plotted By: Matthew Cox
Xrefs: TB-34x22-ANSI-D_193805824_XSNO_193805824_XSNO_waterfront 193805824_XSST

Stantec

TABLE

Design with community in mind

Table 1: Detected Constituents in Granular Material Proposed for Import/Reuse at the River Point District
Manitowoc, Wisconsin

Sample Location Sample Date	Units	Wisconsin RCL Industrial	Wisconsin RCL Non- Industrial	Wisconsin RCL Groundwater	Pile 1 10/12/2023	Pile 2 10/12/2023	Pile 3 10/12/2023
Detected Volatile Organic Compounds							
(60) Constituents Analyzed	µg/kg	Various	Various	Various	ND	--	--
Detected Polycyclic Aromatic Hydrocarbons							
Acenaphthene	µg/kg	45,200,000	3,590,000	n/v	< 9.1	8.3 J	< 6.0
Anthracene	µg/kg	100,000,000	17,900,000	196,949	< 8.5	13 J	< 5.5
Benzo[a]anthracene	µg/kg	20,800	1,140	n/v	< 6.8	53	< 4.5
Benzo[a]pyrene	µg/kg	2,110	115	470	< 9.8	66	< 6.4
Benzo[b]fluoranthene	µg/kg	21,100	1,150	478	< 11	96	< 7.2
Benzo[g,h,i]perylene	µg/kg	n/v	n/v	n/v	< 16	72	< 11
Benzo[k]fluoranthene	µg/kg	211,000	11,500	n/v	< 15	28 J	< 9.8
Chrysene	µg/kg	2,110,000	115,000	144	< 14	78	< 9.1
Fluoranthene	µg/kg	30,100,000	2,390,000	88,878	< 9.4	140	< 6.2
Fluorene	µg/kg	30,100,000	2,390,000	14,830	< 7.1	7.7 J	< 4.7
Indeno[1,2,3-cd]pyrene	µg/kg	21,100	1,150	n/v	< 13	74	< 8.6
Phenanthrene	µg/kg	n/v	n/v	n/v	< 7.1	83	< 4.6
Pyrene	µg/kg	22,600,000	1,790,000	54,546	< 10	130	< 6.6
Detected Resource Conservation and Recovery Act Metals							
Arsenic	mg/kg	**8.3*** [3]	**8.3*** [0.677]	**8.3*** [0.584]	1.3	1.2	0.40 J
Barium	mg/kg	100,000	15,300	**364*** [164.8]	23	36	22
Cadmium	mg/kg	985	71.1	**1.07*** [0.752]	0.20 J B	0.19 B	0.15 J B
Chromium	mg/kg	n/v	n/v	360,000	9.1 B	11 B	12 B
Lead	mg/kg	800	400	**51.6*** [27]	3.0	13	2.1
Mercury	mg/kg	3.13	3.13	0.208	< 0.0092	0.010 J	< 0.0086

Notes:

Wisconsin RCL	Wisconsin Soil Residual Contaminant Levels (Ch. NR 720 WAC, 2018)
--	Constituent not sampled and/or analyzed
15.2	Measured concentration did not exceed the indicated standard
<0.03	Analyte not detected greater than the laboratory reporting limit
n/v	No standard/guideline value
ND	Analytes (VOCs) not detected greater than the laboratory reporting limits
B	Compound was found in the laboratory blank and sample
J	The reported result is an estimated value
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram
Wisconsin SBTV	Wisconsin Soil Background Threshold Value
XX* [XXX]	Standard in bold is the SBTV being used for the purpose of evaluation under ch. NR700 WAC. The established WAC RCL is noted in brackets

ATTACHMENT A
LABORATORY ANALYTICAL REPORT

Design with community in mind

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Jiyan Hatami
Stantec Consulting Corporation
12080 Corporate Parkway
Mequon, Wisconsin 53092

Generated 10/19/2023 3:55:09 PM

JOB DESCRIPTION

River Point Granular Fill Import 193705515

JOB NUMBER

500-241081-1

Eurofins Chicago
2417 Bond Street
University Park IL 60484

See page two for job notes and contact information.

my EOL

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

Results relate only to the items tested and the sample(s) as received by the laboratory. The results, detection limits (LOD) and Quantitation Limits (LOQ) have been adjusted for sample dilutions and/or solids content.

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Authorization

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Authorized for release by
Sandie Fredrick, Project Manager II
Sandra.Fredrick@et.eurofinsus.com
(920)261-1660

Table of Contents

Case Narrative

Client: Stantec Consulting Corporation
Job ID: 500-241081-1
Project/Site: River Point Granular Fill Import 193705515

Job ID: 500-241081-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative
500-241081-1

Receipt
The samples were received on 10/14/2023 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.2º C.

GC/MS VOA
Method 8260D: The laboratory control sample (LCS) for 737333 recovered outside control limits for many analytes. This is a prepped 5035 LCS. All daily instrument LCSs were acceptable, and the data have been reported.Pile 1 (500-241081-1)

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

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

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

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

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

Detection Summary

Client: Stantec Consulting Corporation
Job ID: 500-241081-1
Project/Site: River Point Granular Fill Import 193705515

Client Sample ID: Pile 1 — Lab Sample ID: 500-241081-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.3		1.0	0.36	mg/Kg	1	☼	6010D	Total/NA
Barium	23		1.0	0.12	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.20	J B	0.21	0.038	mg/Kg	1	☼	6010D	Total/NA
Chromium	9.1	B	1.0	0.52	mg/Kg	1	☼	6010D	Total/NA
Lead	3.0		0.52	0.24	mg/Kg	1	☼	6010D	Total/NA

Client Sample ID: Pile 2 — Lab Sample ID: 500-241081-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	8.3	J	34	6.1	ug/Kg	1	☼	8270E	Total/NA
Anthracene	13	J	34	5.7	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	53		34	4.6	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	66		34	6.6	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	96		34	7.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	72		34	11	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	28	J	34	10	ug/Kg	1	☼	8270E	Total/NA
Chrysene	78		34	9.2	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	140		34	6.3	ug/Kg	1	☼	8270E	Total/NA
Fluorene	7.7	J	34	4.8	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	74		34	8.8	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	83		34	4.7	ug/Kg	1	☼	8270E	Total/NA
Pyrene	130		34	6.7	ug/Kg	1	☼	8270E	Total/NA
Arsenic	1.2		0.97	0.33	mg/Kg	1	☼	6010D	Total/NA
Barium	36		0.97	0.11	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.19	B	0.19	0.035	mg/Kg	1	☼	6010D	Total/NA
Chromium	11	B	0.97	0.48	mg/Kg	1	☼	6010D	Total/NA
Lead	13		0.49	0.22	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.010	J	0.017	0.0092	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: Pile 3 — Lab Sample ID: 500-241081-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.40	J	0.98	0.33	mg/Kg	1	☼	6010D	Total/NA
Barium	22		0.98	0.11	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.15	J B	0.20	0.035	mg/Kg	1	☼	6010D	Total/NA
Chromium	12	B	0.98	0.48	mg/Kg	1	☼	6010D	Total/NA
Lead	2.1		0.49	0.23	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Stantec Consulting Corporation
Job ID: 500-241081-1
Project/Site: River Point Granular Fill Import 193705515

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CHI
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CHI
6010D	Metals (ICP)	SW846	EET CHI
7471B	Mercury (CVAA)	SW846	EET CHI
Moisture	Percent Moisture	EPA	EET CHI
3050B	Preparation, Metals	SW846	EET CHI
3541	Automated Soxhlet Extraction	SW846	EET CHI
5035	Closed System Purge and Trap	SW846	EET CHI
7471B	Preparation, Mercury	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Stantec Consulting Corporation
Job ID: 500-241081-1
Project/Site: River Point Granular Fill Import 193705515

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-241081-1	Pile 1	Solid	10/12/23 14:00	10/14/23 11:20
500-241081-2	Pile 2	Solid	10/12/23 14:05	10/14/23 11:20
500-241081-3	Pile 3	Solid	10/12/23 14:10	10/14/23 11:20

Client: Stantec Consulting Corporation
Project/Site: River Point Granular Fill Import 193705515

Job ID: 500-241081-1

Client Sample ID: Pile 1
Date Collected: 10/12/23 14:00
Date Received: 10/14/23 11:20

Lab Sample ID: 500-241081-1
Matrix: Solid
Percent Solids: 92.6

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<27	*+	59	27	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,1,1-Trichloroethane	<22		59	22	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,1,2,2-Tetrachloroethane	<23		59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,1,2-Trichloroethane	<21		59	21	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,1-Dichloroethane	<24	*+	59	24	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,1-Dichloroethene	<23		59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,1-Dichloropropene	<17	*+	59	17	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,2,3-Trichlorobenzene	<27		59	27	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,2,3-Trichloropropane	<24		120	24	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,2,4-Trichlorobenzene	<20		59	20	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,2,4-Trimethylbenzene	<21	*+	59	21	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,2-Dibromo-3-Chloropropane	<120		290	120	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Ethylene Dibromide	<23		59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,2-Dichlorobenzene	<20		59	20	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,2-Dichloroethane	<23		59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,2-Dichloropropane	<25	*+	59	25	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,3,5-Trimethylbenzene	<22	*+	59	22	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,3-Dichlorobenzene	<23		59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,3-Dichloropropane	<21		59	21	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
1,4-Dichlorobenzene	<21		59	21	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
2,2-Dichloropropane	<26	*+	290	26	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
2-Chlorotoluene	<18	*+	59	18	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
4-Chlorotoluene	<20	*+	59	20	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Benzene	<8.6	*+	15	8.6	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Bromobenzene	<21	*+	59	21	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Chlorobromomethane	<25	*+	59	25	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Bromoform	<28	*+	59	28	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Bromomethane	<47	*+	180	47	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Carbon tetrachloride	<22	*+	59	22	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Chlorobenzene	<23		59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Chloroethane	<30		290	30	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Chloroform	<22	*+	120	22	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Chloromethane	<19		290	19	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
cis-1,2-Dichloroethene	<24	*+	59	24	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
cis-1,3-Dichloropropene	<24		59	24	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Chlorodibromomethane	<29	*+	59	29	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Dibromomethane	<16	*+	59	16	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Dichlorobromomethane	<22	*+	59	22	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Dichlorodifluoromethane	<39		180	39	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Ethylbenzene	<11		15	11	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Hexachlorobutadiene	<26		59	26	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Isopropyl ether	<16		59	16	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Isopropylbenzene	<22	*+	59	22	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Methyl tert-butyl ether	<23		59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Methylene Chloride	<95	*+	290	95	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Naphthalene	<20		59	20	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
n-Butylbenzene	<23		59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
N-Propylbenzene	<24	*+	59	24	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
4-Isopropyltoluene	<21		59	21	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50

Client Sample ID: Pile 1
Lab Sample ID: 500-241081-1
Date Collected: 10/12/23 14:00
Matrix: Solid
Date Received: 10/14/23 11:20
Percent Solids: 92.6

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<23	*+	59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Styrene	<23	*+	59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
tert-Butylbenzene	<23	*+	59	23	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Tetrachloroethene	<22		59	22	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Toluene	<8.6		15	8.6	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
trans-1,2-Dichloroethene	<20	*+	59	20	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
trans-1,3-Dichloropropene	<21		59	21	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Trichloroethene	<9.6	*+	29	9.6	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Trichlorofluoromethane	<25		59	25	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Vinyl chloride	<15		59	15	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50
Xylenes, Total	<13		29	13	ug/Kg	☼	10/12/23 14:00	10/18/23 23:57	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 126*	*10/12/23 14:00*	*10/18/23 23:57*	*50*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*	*10/12/23 14:00*	*10/18/23 23:57*	*50*
Dibromofluoromethane (Surr)	*86*		*75 - 120*	*10/12/23 14:00*	*10/18/23 23:57*	*50*
Toluene-d8 (Surr)	*95*		*75 - 120*	*10/12/23 14:00*	*10/18/23 23:57*	*50*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<12		100	12	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
2-Methylnaphthalene	<9.3		100	9.3	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Acenaphthene	<9.1		50	9.1	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Acenaphthylene	<6.7		50	6.7	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Anthracene	<8.5		50	8.5	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Benzo[a]anthracene	<6.8		50	6.8	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Benzo[a]pyrene	<9.8		50	9.8	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Benzo[b]fluoranthene	<11		50	11	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Benzo[g,h,i]perylene	<16		50	16	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Benzo[k]fluoranthene	<15		50	15	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Chrysene	<14		50	14	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Dibenz(a,h)anthracene	<9.8		50	9.8	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Fluoranthene	<9.4		50	9.4	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Fluorene	<7.1		50	7.1	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Indeno[1,2,3-cd]pyrene	<13		50	13	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Naphthalene	<7.8		50	7.8	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Phenanthrene	<7.1		50	7.1	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1
Pyrene	<10		50	10	ug/Kg	☼	10/16/23 15:11	10/17/23 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*73*		*37 - 147*	*10/16/23 15:11*	*10/17/23 15:25*	*1*
2-Fluorobiphenyl (Surr)	*72*		*43 - 145*	*10/16/23 15:11*	*10/17/23 15:25*	*1*
Terphenyl-d14 (Surr)	*85*		*42 - 157*	*10/16/23 15:11*	*10/17/23 15:25*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.3**		1.0	0.36	mg/Kg	☼	10/17/23 09:39	10/18/23 12:19	1
Barium	**23**		1.0	0.12	mg/Kg	☼	10/17/23 09:39	10/18/23 12:19	1
Cadmium	**0.20**	**J B**	0.21	0.038	mg/Kg	☼	10/17/23 09:39	10/18/23 12:19	1
Chromium	**9.1**	**B**	1.0	0.52	mg/Kg	☼	10/17/23 09:39	10/18/23 12:19	1

Client: Stantec Consulting Corporation
Project/Site: River Point Granular Fill Import 193705515

Job ID: 500-241081-1

Client Sample ID: Pile 1
Date Collected: 10/12/23 14:00
Date Received: 10/14/23 11:20

Lab Sample ID: 500-241081-1
Matrix: Solid
Percent Solids: 92.6

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**3.0**		0.52	0.24	mg/Kg	☼	10/17/23 09:39	10/18/23 12:19	1
Selenium	<0.61		1.0	0.61	mg/Kg	☼	10/17/23 09:39	10/19/23 13:17	1
Silver	<0.13		0.52	0.13	mg/Kg	☼	10/17/23 09:39	10/18/23 12:19	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0092		0.017	0.0092	mg/Kg	☼	10/17/23 13:45	10/18/23 12:50	1

Client: Stantec Consulting Corporation
Project/Site: River Point Granular Fill Import 193705515

Job ID: 500-241081-1

Client Sample ID: Pile 2
Date Collected: 10/12/23 14:05
Date Received: 10/14/23 11:20

Lab Sample ID: 500-241081-2
Matrix: Solid
Percent Solids: 92.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.3		68	8.3	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
2-Methylnaphthalene	<6.2		68	6.2	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Acenaphthene	**8.3**	**J**	34	6.1	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Acenaphthylene	<4.5		34	4.5	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Anthracene	**13**	**J**	34	5.7	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Benzo[a]anthracene	**53**		34	4.6	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Benzo[a]pyrene	**66**		34	6.6	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Benzo[b]fluoranthene	**96**		34	7.3	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Benzo[g,h,i]perylene	**72**		34	11	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Benzo[k]fluoranthene	**28**	**J**	34	10	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Chrysene	**78**		34	9.2	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Dibenz(a,h)anthracene	<6.6		34	6.6	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Fluoranthene	**140**		34	6.3	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Fluorene	**7.7**	**J**	34	4.8	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Indeno[1,2,3-cd]pyrene	**74**		34	8.8	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Naphthalene	<5.2		34	5.2	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Phenanthrene	**83**		34	4.7	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1
Pyrene	**130**		34	6.7	ug/Kg	☼	10/16/23 15:11	10/17/23 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*52*		*37 - 147*	*10/16/23 15:11*	*10/17/23 18:21*	*1*
2-Fluorobiphenyl (Surr)	*49*		*43 - 145*	*10/16/23 15:11*	*10/17/23 18:21*	*1*
Terphenyl-d14 (Surr)	*57*		*42 - 157*	*10/16/23 15:11*	*10/17/23 18:21*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.2**		0.97	0.33	mg/Kg	☼	10/17/23 09:39	10/18/23 12:23	1
Barium	**36**		0.97	0.11	mg/Kg	☼	10/17/23 09:39	10/18/23 12:23	1
Cadmium	**0.19**	**B**	0.19	0.035	mg/Kg	☼	10/17/23 09:39	10/18/23 12:23	1
Chromium	**11**	**B**	0.97	0.48	mg/Kg	☼	10/17/23 09:39	10/18/23 12:23	1
Lead	**13**		0.49	0.22	mg/Kg	☼	10/17/23 09:39	10/18/23 12:23	1
Selenium	<0.57		0.97	0.57	mg/Kg	☼	10/17/23 09:39	10/19/23 13:21	1
Silver	<0.13		0.49	0.13	mg/Kg	☼	10/17/23 09:39	10/18/23 12:23	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.010**	**J**	0.017	0.0092	mg/Kg	☼	10/17/23 13:45	10/18/23 13:12	1

Client: Stantec Consulting Corporation
Project/Site: River Point Granular Fill Import 193705515

Job ID: 500-241081-1

Client Sample ID: Pile 3

Date Collected: 10/12/23 14:10
Date Received: 10/14/23 11:20

Lab Sample ID: 500-241081-3

Matrix: Solid
Percent Solids: 97.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.1		67	8.1	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
2-Methylnaphthalene	<6.1		67	6.1	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Acenaphthene	<6.0		33	6.0	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Acenaphthylene	<4.4		33	4.4	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Anthracene	<5.5		33	5.5	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Benzo[a]anthracene	<4.5		33	4.5	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Benzo[a]pyrene	<6.4		33	6.4	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Benzo[b]fluoranthene	<7.2		33	7.2	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Benzo[g,h,i]perylene	<11		33	11	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Benzo[k]fluoranthene	<9.8		33	9.8	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Chrysene	<9.1		33	9.1	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Dibenz(a,h)anthracene	<6.4		33	6.4	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Fluoranthene	<6.2		33	6.2	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Fluorene	<4.7		33	4.7	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Indeno[1,2,3-cd]pyrene	<8.6		33	8.6	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Naphthalene	<5.1		33	5.1	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Phenanthrene	<4.6		33	4.6	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1
Pyrene	<6.6		33	6.6	ug/Kg	☼	10/16/23 15:11	10/17/23 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*51*		*37 - 147*	*10/16/23 15:11*	*10/17/23 16:15*	*1*
2-Fluorobiphenyl (Surr)	*52*		*43 - 145*	*10/16/23 15:11*	*10/17/23 16:15*	*1*
Terphenyl-d14 (Surr)	*65*		*42 - 157*	*10/16/23 15:11*	*10/17/23 16:15*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.40**	**J**	0.98	0.33	mg/Kg	☼	10/17/23 09:39	10/18/23 12:26	1
Barium	**22**		0.98	0.11	mg/Kg	☼	10/17/23 09:39	10/18/23 12:26	1
Cadmium	**0.15**	**J B**	0.20	0.035	mg/Kg	☼	10/17/23 09:39	10/18/23 12:26	1
Chromium	**12**	**B**	0.98	0.48	mg/Kg	☼	10/17/23 09:39	10/18/23 12:26	1
Lead	**2.1**		0.49	0.23	mg/Kg	☼	10/17/23 09:39	10/18/23 12:26	1
Selenium	<0.57		0.98	0.57	mg/Kg	☼	10/17/23 09:39	10/19/23 13:26	1
Silver	<0.13		0.49	0.13	mg/Kg	☼	10/17/23 09:39	10/18/23 12:26	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0086		0.016	0.0086	mg/Kg	☼	10/17/23 13:45	10/18/23 13:14	1

Definitions/Glossary

Client: Stantec Consulting Corporation
Job ID: 500-241081-1
Project/Site: River Point Granular Fill Import 193705515

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

GC/MS VOA

Prep Batch: 737333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	5035	
LB3 500-737333/21-A	Method Blank	Total/NA	Solid	5035	
LCS 500-737333/22-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 737354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB3 500-737333/21-A	Method Blank	Total/NA	Solid	8260D	737333
MB 500-737354/6	Method Blank	Total/NA	Solid	8260D	
LCS 500-737333/22-A	Lab Control Sample	Total/NA	Solid	8260D	737333
LCS 500-737354/4	Lab Control Sample	Total/NA	Solid	8260D	

Analysis Batch: 737759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	8260D	737333
MB 500-737759/6	Method Blank	Total/NA	Solid	8260D	
LCS 500-737759/4	Lab Control Sample	Total/NA	Solid	8260D	

GC/MS Semi VOA

Prep Batch: 737295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	3541	
500-241081-2	Pile 2	Total/NA	Solid	3541	
500-241081-3	Pile 3	Total/NA	Solid	3541	
MB 500-737295/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-737295/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 737364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	8270E	737295
500-241081-2	Pile 2	Total/NA	Solid	8270E	737295
500-241081-3	Pile 3	Total/NA	Solid	8270E	737295
MB 500-737295/1-A	Method Blank	Total/NA	Solid	8270E	737295
LCS 500-737295/2-A	Lab Control Sample	Total/NA	Solid	8270E	737295

Metals

Prep Batch: 737458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	3050B	
500-241081-2	Pile 2	Total/NA	Solid	3050B	
500-241081-3	Pile 3	Total/NA	Solid	3050B	
MB 500-737458/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-737458/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 737486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	7471B	
500-241081-2	Pile 2	Total/NA	Solid	7471B	
500-241081-3	Pile 3	Total/NA	Solid	7471B	
MB 500-737486/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-737486/13-A	Lab Control Sample	Total/NA	Solid	7471B	

Metals (Continued)

Prep Batch: 737486 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1 MS	Pile 1	Total/NA	Solid	7471B	
500-241081-1 MSD	Pile 1	Total/NA	Solid	7471B	
500-241081-1 DU	Pile 1	Total/NA	Solid	7471B	

Analysis Batch: 737723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	7471B	737486
500-241081-2	Pile 2	Total/NA	Solid	7471B	737486
500-241081-3	Pile 3	Total/NA	Solid	7471B	737486
MB 500-737486/12-A	Method Blank	Total/NA	Solid	7471B	737486
LCS 500-737486/13-A	Lab Control Sample	Total/NA	Solid	7471B	737486
500-241081-1 MS	Pile 1	Total/NA	Solid	7471B	737486
500-241081-1 MSD	Pile 1	Total/NA	Solid	7471B	737486
500-241081-1 DU	Pile 1	Total/NA	Solid	7471B	737486

Analysis Batch: 737735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	6010D	737458
500-241081-2	Pile 2	Total/NA	Solid	6010D	737458
500-241081-3	Pile 3	Total/NA	Solid	6010D	737458
MB 500-737458/1-A	Method Blank	Total/NA	Solid	6010D	737458
LCS 500-737458/2-A	Lab Control Sample	Total/NA	Solid	6010D	737458

Analysis Batch: 737932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	6010D	737458
500-241081-2	Pile 2	Total/NA	Solid	6010D	737458
500-241081-3	Pile 3	Total/NA	Solid	6010D	737458
MB 500-737458/1-A	Method Blank	Total/NA	Solid	6010D	737458
LCS 500-737458/2-A	Lab Control Sample	Total/NA	Solid	6010D	737458

General Chemistry

Analysis Batch: 737283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-241081-1	Pile 1	Total/NA	Solid	Moisture	
500-241081-2	Pile 2	Total/NA	Solid	Moisture	
500-241081-3	Pile 3	Total/NA	Solid	Moisture	
500-241081-1 DU	Pile 1	Total/NA	Solid	Moisture	

Surrogate Summary

Client: Stantec Consulting Corporation
Job ID: 500-241081-1
Project/Site: River Point Granular Fill Import 193705515

Method: 8260D - Volatile Organic Compounds by GC/MS

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(75-126)	(72-124)	(75-120)	(75-120)
500-241081-1	Pile 1	84	100	86	95
LB3 500-737333/21-A	Method Blank	93	107	100	88
LCS 500-737333/22-A	Lab Control Sample	92	106	99	90
LCS 500-737354/4	Lab Control Sample	86	105	95	92
LCS 500-737759/4	Lab Control Sample	91	100	95	95
MB 500-737354/6	Method Blank	92	109	99	88
MB 500-737759/6	Method Blank	88	109	92	93

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

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

		Percent Surrogate Recovery (Acceptance Limits)		
		NBZ	FBP	TPHL
Lab Sample ID	Client Sample ID	(37-147)	(43-145)	(42-157)
500-241081-1	Pile 1	73	72	85
500-241081-2	Pile 2	52	49	57
500-241081-3	Pile 3	51	52	65
LCS 500-737295/2-A	Lab Control Sample	87	81	85
MB 500-737295/1-A	Method Blank	77	73	77

Surrogate Legend

NBZ = Nitrobenzene-d5 (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: LB3 500-737333/21-A
Matrix: Solid
Analysis Batch: 737354

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 737333

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<23		50	23	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,1,2-Trichloroethane	<18		50	18	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,1-Dichloroethane	<21		50	21	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,1-Dichloroethene	<20		50	20	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,1-Dichloropropene	<15		50	15	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,2,3-Trichloropropane	<21		100	21	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,2-Dibromo-3-Chloropropane	<100		250	100	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Ethylene Dibromide	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,2-Dichloroethane	<20		50	20	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,2-Dichloropropane	<21		50	21	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,3,5-Trimethylbenzene	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,3-Dichloropropane	<18		50	18	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
1,4-Dichlorobenzene	<18		50	18	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
2,2-Dichloropropane	<22		250	22	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
2-Chlorotoluene	<16		50	16	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
4-Chlorotoluene	<18		50	18	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Benzene	<7.3		13	7.3	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Bromobenzene	<18		50	18	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Chlorobromomethane	<21		50	21	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Bromoform	<24		50	24	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Bromomethane	<40		150	40	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Carbon tetrachloride	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Chlorobenzene	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Chloroethane	<25		250	25	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Chloroform	<19		100	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Chloromethane	<16		250	16	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
cis-1,2-Dichloroethene	<20		50	20	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
cis-1,3-Dichloropropene	<21		50	21	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Chlorodibromomethane	<24		50	24	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Dibromomethane	<14		50	14	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Dichlorobromomethane	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Dichlorodifluoromethane	<34		150	34	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Ethylbenzene	<9.2		13	9.2	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Hexachlorobutadiene	<22		50	22	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Isopropyl ether	<14		50	14	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Isopropylbenzene	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Methyl tert-butyl ether	<20		50	20	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Methylene Chloride	<82		250	82	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Naphthalene	<17		50	17	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
n-Butylbenzene	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
N-Propylbenzene	<21		50	21	ug/Kg		10/16/23 22:40	10/17/23 10:35	50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB3 500-737333/21-A
Matrix: Solid
Analysis Batch: 737354

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 737333

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	<18		50	18	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
sec-Butylbenzene	<20		50	20	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Styrene	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
tert-Butylbenzene	<20		50	20	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Tetrachloroethene	<19		50	19	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Toluene	<7.4		13	7.4	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Trichloroethene	<8.2		25	8.2	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Trichlorofluoromethane	<21		50	21	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Vinyl chloride	<13		50	13	ug/Kg		10/16/23 22:40	10/17/23 10:35	50
Xylenes, Total	<11		25	11	ug/Kg		10/16/23 22:40	10/17/23 10:35	50

Surrogate	*LB3 %Recovery*	*LB3 Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*	*10/16/23 22:40*	*10/17/23 10:35*	*50*
4-Bromofluorobenzene (Surr)	*107*		*72 - 124*	*10/16/23 22:40*	*10/17/23 10:35*	*50*
Dibromofluoromethane (Surr)	*100*		*75 - 120*	*10/16/23 22:40*	*10/17/23 10:35*	*50*
Toluene-d8 (Surr)	*88*		*75 - 120*	*10/16/23 22:40*	*10/17/23 10:35*	*50*

Lab Sample ID: LCS 500-737333/22-A
Matrix: Solid
Analysis Batch: 737354

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 737333

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	2500	3210	*+	ug/Kg		128	70 - 125
1,1,1-Trichloroethane	2500	3110		ug/Kg		124	70 - 125
1,1,2,2-Tetrachloroethane	2500	3380		ug/Kg		135	62 - 140
1,1,2-Trichloroethane	2500	3120		ug/Kg		125	71 - 130
1,1-Dichloroethane	2500	3310	*+	ug/Kg		132	70 - 125
1,1-Dichloroethene	2500	3050		ug/Kg		122	67 - 122
1,1-Dichloropropene	2500	3190	*+	ug/Kg		128	70 - 121
1,2,3-Trichlorobenzene	2500	1970		ug/Kg		79	51 - 145
1,2,3-Trichloropropane	2500	3280		ug/Kg		131	50 - 133
1,2,4-Trichlorobenzene	2500	2050		ug/Kg		82	57 - 137
1,2,4-Trimethylbenzene	2500	3180	*+	ug/Kg		127	70 - 123
1,2-Dibromo-3-Chloropropane	2500	3060		ug/Kg		123	56 - 123
Ethylene Dibromide	2500	3060		ug/Kg		122	70 - 125
1,2-Dichlorobenzene	2500	2980		ug/Kg		119	70 - 125
1,2-Dichloroethane	2500	3070		ug/Kg		123	68 - 127
1,2-Dichloropropane	2500	3390	*+	ug/Kg		136	67 - 130
1,3,5-Trimethylbenzene	2500	3180	*+	ug/Kg		127	70 - 123
1,3-Dichlorobenzene	2500	3000		ug/Kg		120	70 - 125
1,3-Dichloropropane	2500	3070		ug/Kg		123	62 - 136
1,4-Dichlorobenzene	2500	2960		ug/Kg		118	70 - 120
2,2-Dichloropropane	2500	3520	*+	ug/Kg		141	58 - 139
2-Chlorotoluene	2500	3210	*+	ug/Kg		129	70 - 125
4-Chlorotoluene	2500	3190	*+	ug/Kg		128	68 - 124
Benzene	2500	3240	*+	ug/Kg		130	70 - 120

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 500-737333/22-A
Matrix: Solid
Analysis Batch: 737354

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 737333

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromobenzene	2500	3280	*+	ug/Kg		131	70 - 122
Chlorobromomethane	2500	3320	*+	ug/Kg		133	65 - 122
Bromoform	2500	3730	*+	ug/Kg		149	56 - 132
Bromomethane	2500	4080	*+	ug/Kg		163	40 - 152
Carbon tetrachloride	2500	3360	*+	ug/Kg		134	59 - 133
Chlorobenzene	2500	3000		ug/Kg		120	70 - 120
Chloroethane	2500	2990		ug/Kg		119	48 - 136
Chloroform	2500	3090	*+	ug/Kg		124	70 - 120
Chloromethane	2500	2530		ug/Kg		101	56 - 152
cis-1,2-Dichloroethene	2500	3280	*+	ug/Kg		131	70 - 125
cis-1,3-Dichloropropene	2500	3060		ug/Kg		122	64 - 127
Chlorodibromomethane	2500	3460	*+	ug/Kg		138	68 - 125
Dibromomethane	2500	3370	*+	ug/Kg		135	70 - 120
Dichlorobromomethane	2500	3390	*+	ug/Kg		136	69 - 120
Dichlorodifluoromethane	2500	1380		ug/Kg		55	40 - 159
Ethylbenzene	2500	2920		ug/Kg		117	70 - 123
Hexachlorobutadiene	2500	2070		ug/Kg		83	51 - 150
Isopropylbenzene	2500	3190	*+	ug/Kg		127	70 - 126
Methyl tert-butyl ether	2500	2860		ug/Kg		114	55 - 123
Methylene Chloride	2500	3260	*+	ug/Kg		130	69 - 125
Naphthalene	2500	2710		ug/Kg		108	53 - 144
n-Butylbenzene	2500	2920		ug/Kg		117	68 - 125
N-Propylbenzene	2500	3270	*+	ug/Kg		131	69 - 127
4-Isopropyltoluene	2500	3080		ug/Kg		123	70 - 125
sec-Butylbenzene	2500	3110	*+	ug/Kg		124	70 - 123
Styrene	2500	3120	*+	ug/Kg		125	70 - 120
tert-Butylbenzene	2500	3140	*+	ug/Kg		126	70 - 121
Tetrachloroethene	2500	2720		ug/Kg		109	70 - 128
Toluene	2500	3120		ug/Kg		125	70 - 125
trans-1,2-Dichloroethene	2500	3190	*+	ug/Kg		127	70 - 125
trans-1,3-Dichloropropene	2500	3070		ug/Kg		123	62 - 128
Trichloroethene	2500	3260	*+	ug/Kg		131	70 - 125
Trichlorofluoromethane	2500	2940		ug/Kg		118	55 - 128
Vinyl chloride	2500	2710		ug/Kg		108	64 - 126
Xylenes, Total	5000	6160		ug/Kg		123	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 126*
4-Bromofluorobenzene (Surr)	*106*		*72 - 124*
Dibromofluoromethane (Surr)	*99*		*75 - 120*
Toluene-d8 (Surr)	*90*		*75 - 120*

Lab Sample ID: MB 500-737354/6
Matrix: Solid
Analysis Batch: 737354

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			10/17/23 10:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 500-737354/6
Matrix: Solid
Analysis Batch: 737354

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			10/17/23 10:11	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			10/17/23 10:11	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			10/17/23 10:11	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			10/17/23 10:11	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			10/17/23 10:11	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			10/17/23 10:11	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			10/17/23 10:11	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			10/17/23 10:11	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			10/17/23 10:11	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			10/17/23 10:11	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			10/17/23 10:11	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/Kg			10/17/23 10:11	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			10/17/23 10:11	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			10/17/23 10:11	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			10/17/23 10:11	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			10/17/23 10:11	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			10/17/23 10:11	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			10/17/23 10:11	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			10/17/23 10:11	1
2,2-Dichloropropane	<0.44		5.0	0.44	ug/Kg			10/17/23 10:11	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			10/17/23 10:11	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			10/17/23 10:11	1
Benzene	<0.15		0.25	0.15	ug/Kg			10/17/23 10:11	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			10/17/23 10:11	1
Chlorobromomethane	<0.43		1.0	0.43	ug/Kg			10/17/23 10:11	1
Bromoform	<0.48		1.0	0.48	ug/Kg			10/17/23 10:11	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			10/17/23 10:11	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			10/17/23 10:11	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			10/17/23 10:11	1
Chloroethane	<0.50		5.0	0.50	ug/Kg			10/17/23 10:11	1
Chloroform	<0.37		2.0	0.37	ug/Kg			10/17/23 10:11	1
Chloromethane	<0.32		5.0	0.32	ug/Kg			10/17/23 10:11	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			10/17/23 10:11	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			10/17/23 10:11	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/Kg			10/17/23 10:11	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			10/17/23 10:11	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/Kg			10/17/23 10:11	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			10/17/23 10:11	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			10/17/23 10:11	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			10/17/23 10:11	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			10/17/23 10:11	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			10/17/23 10:11	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			10/17/23 10:11	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			10/17/23 10:11	1
Naphthalene	0.364	J	1.0	0.33	ug/Kg			10/17/23 10:11	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			10/17/23 10:11	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			10/17/23 10:11	1
4-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			10/17/23 10:11	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			10/17/23 10:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 500-737354/6
Matrix: Solid
Analysis Batch: 737354

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	<0.39		1.0	0.39	ug/Kg			10/17/23 10:11	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			10/17/23 10:11	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			10/17/23 10:11	1
Toluene	<0.15		0.25	0.15	ug/Kg			10/17/23 10:11	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			10/17/23 10:11	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			10/17/23 10:11	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			10/17/23 10:11	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			10/17/23 10:11	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			10/17/23 10:11	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			10/17/23 10:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 126*		*10/17/23 10:11*	*1*
4-Bromofluorobenzene (Surr)	*109*		*72 - 124*		*10/17/23 10:11*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 120*		*10/17/23 10:11*	*1*
Toluene-d8 (Surr)	*88*		*75 - 120*		*10/17/23 10:11*	*1*

Lab Sample ID: LCS 500-737354/4
Matrix: Solid
Analysis Batch: 737354

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	47.6		ug/Kg		95	70 - 125
1,1,1-Trichloroethane	50.0	47.1		ug/Kg		94	70 - 125
1,1,2,2-Tetrachloroethane	50.0	50.4		ug/Kg		101	62 - 140
1,1,2-Trichloroethane	50.0	45.8		ug/Kg		92	71 - 130
1,1-Dichloroethane	50.0	49.2		ug/Kg		98	70 - 125
1,1-Dichloroethene	50.0	47.8		ug/Kg		96	67 - 122
1,1-Dichloropropene	50.0	48.4		ug/Kg		97	70 - 121
1,2,3-Trichlorobenzene	50.0	28.9		ug/Kg		58	51 - 145
1,2,3-Trichloropropane	50.0	49.1		ug/Kg		98	50 - 133
1,2,4-Trichlorobenzene	50.0	31.2		ug/Kg		62	57 - 137
1,2,4-Trimethylbenzene	50.0	49.3		ug/Kg		99	70 - 123
1,2-Dibromo-3-Chloropropane	50.0	46.1		ug/Kg		92	56 - 123
Ethylene Dibromide	50.0	46.1		ug/Kg		92	70 - 125
1,2-Dichlorobenzene	50.0	44.9		ug/Kg		90	70 - 125
1,2-Dichloroethane	50.0	44.3		ug/Kg		89	68 - 127
1,2-Dichloropropane	50.0	50.2		ug/Kg		100	67 - 130
1,3,5-Trimethylbenzene	50.0	49.6		ug/Kg		99	70 - 123
1,3-Dichlorobenzene	50.0	46.9		ug/Kg		94	70 - 125
1,3-Dichloropropane	50.0	46.9		ug/Kg		94	62 - 136
1,4-Dichlorobenzene	50.0	46.3		ug/Kg		93	70 - 120
2,2-Dichloropropane	50.0	56.8		ug/Kg		114	58 - 139
2-Chlorotoluene	50.0	50.2		ug/Kg		100	70 - 125
4-Chlorotoluene	50.0	50.4		ug/Kg		101	68 - 124
Benzene	50.0	48.5		ug/Kg		97	70 - 120
Bromobenzene	50.0	50.3		ug/Kg		101	70 - 122
Chlorobromomethane	50.0	47.3		ug/Kg		95	65 - 122

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 500-737354/4
Matrix: Solid
Analysis Batch: 737354

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromoform	50.0	55.2		ug/Kg		110	56 - 132
Bromomethane	50.0	71.5		ug/Kg		143	40 - 152
Carbon tetrachloride	50.0	51.2		ug/Kg		102	59 - 133
Chlorobenzene	50.0	46.3		ug/Kg		93	70 - 120
Chloroethane	50.0	51.1		ug/Kg		102	48 - 136
Chloroform	50.0	45.7		ug/Kg		91	70 - 120
Chloromethane	50.0	50.9		ug/Kg		102	56 - 152
cis-1,2-Dichloroethene	50.0	48.6		ug/Kg		97	70 - 125
cis-1,3-Dichloropropene	50.0	46.0		ug/Kg		92	64 - 127
Chlorodibromomethane	50.0	52.3		ug/Kg		105	68 - 125
Dibromomethane	50.0	48.4		ug/Kg		97	70 - 120
Dichlorobromomethane	50.0	49.9		ug/Kg		100	69 - 120
Dichlorodifluoromethane	50.0	44.2		ug/Kg		88	40 - 159
Ethylbenzene	50.0	46.2		ug/Kg		92	70 - 123
Hexachlorobutadiene	50.0	31.9		ug/Kg		64	51 - 150
Isopropylbenzene	50.0	49.3		ug/Kg		99	70 - 126
Methyl tert-butyl ether	50.0	42.2		ug/Kg		84	55 - 123
Methylene Chloride	50.0	47.9		ug/Kg		96	69 - 125
Naphthalene	50.0	31.1		ug/Kg		62	53 - 144
n-Butylbenzene	50.0	46.9		ug/Kg		94	68 - 125
N-Propylbenzene	50.0	52.0		ug/Kg		104	69 - 127
4-Isopropyltoluene	50.0	48.5		ug/Kg		97	70 - 125
sec-Butylbenzene	50.0	48.6		ug/Kg		97	70 - 123
Styrene	50.0	47.9		ug/Kg		96	70 - 120
tert-Butylbenzene	50.0	48.3		ug/Kg		97	70 - 121
Tetrachloroethene	50.0	43.2		ug/Kg		86	70 - 128
Toluene	50.0	48.7		ug/Kg		97	70 - 125
trans-1,2-Dichloroethene	50.0	50.1		ug/Kg		100	70 - 125
trans-1,3-Dichloropropene	50.0	46.5		ug/Kg		93	62 - 128
Trichloroethene	50.0	48.8		ug/Kg		98	70 - 125
Trichlorofluoromethane	50.0	47.9		ug/Kg		96	55 - 128
Vinyl chloride	50.0	51.0		ug/Kg		102	64 - 126
Xylenes, Total	100	94.8		ug/Kg		95	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*		*75 - 126*
4-Bromofluorobenzene (Surr)	*105*		*72 - 124*
Dibromofluoromethane (Surr)	*95*		*75 - 120*
Toluene-d8 (Surr)	*92*		*75 - 120*

Lab Sample ID: MB 500-737759/6
Matrix: Solid
Analysis Batch: 737759

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			10/18/23 22:38	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			10/18/23 22:38	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			10/18/23 22:38	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 500-737759/6
Matrix: Solid
Analysis Batch: 737759

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			10/18/23 22:38	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			10/18/23 22:38	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			10/18/23 22:38	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			10/18/23 22:38	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			10/18/23 22:38	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			10/18/23 22:38	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			10/18/23 22:38	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			10/18/23 22:38	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			10/18/23 22:38	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/Kg			10/18/23 22:38	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			10/18/23 22:38	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			10/18/23 22:38	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			10/18/23 22:38	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			10/18/23 22:38	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			10/18/23 22:38	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			10/18/23 22:38	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			10/18/23 22:38	1
2,2-Dichloropropane	<0.44		5.0	0.44	ug/Kg			10/18/23 22:38	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			10/18/23 22:38	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			10/18/23 22:38	1
Benzene	<0.15		0.25	0.15	ug/Kg			10/18/23 22:38	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			10/18/23 22:38	1
Chlorobromomethane	<0.43		1.0	0.43	ug/Kg			10/18/23 22:38	1
Bromoform	<0.48		1.0	0.48	ug/Kg			10/18/23 22:38	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			10/18/23 22:38	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			10/18/23 22:38	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			10/18/23 22:38	1
Chloroethane	<0.50		5.0	0.50	ug/Kg			10/18/23 22:38	1
Chloroform	<0.37		2.0	0.37	ug/Kg			10/18/23 22:38	1
Chloromethane	<0.32		5.0	0.32	ug/Kg			10/18/23 22:38	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			10/18/23 22:38	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			10/18/23 22:38	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/Kg			10/18/23 22:38	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			10/18/23 22:38	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/Kg			10/18/23 22:38	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			10/18/23 22:38	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			10/18/23 22:38	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			10/18/23 22:38	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			10/18/23 22:38	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			10/18/23 22:38	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			10/18/23 22:38	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			10/18/23 22:38	1
Naphthalene	<0.33		1.0	0.33	ug/Kg			10/18/23 22:38	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			10/18/23 22:38	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			10/18/23 22:38	1
4-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			10/18/23 22:38	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			10/18/23 22:38	1
Styrene	<0.39		1.0	0.39	ug/Kg			10/18/23 22:38	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			10/18/23 22:38	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 500-737759/6
Matrix: Solid
Analysis Batch: 737759

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			10/18/23 22:38	1
Toluene	<0.15		0.25	0.15	ug/Kg			10/18/23 22:38	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			10/18/23 22:38	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			10/18/23 22:38	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			10/18/23 22:38	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			10/18/23 22:38	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			10/18/23 22:38	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			10/18/23 22:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*75 - 126*		*10/18/23 22:38*	*1*
4-Bromofluorobenzene (Surr)	*109*		*72 - 124*		*10/18/23 22:38*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 120*		*10/18/23 22:38*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*10/18/23 22:38*	*1*

Lab Sample ID: LCS 500-737759/4
Matrix: Solid
Analysis Batch: 737759

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	41.6		ug/Kg		83	70 - 125
1,1,1-Trichloroethane	50.0	46.7		ug/Kg		93	70 - 125
1,1,2,2-Tetrachloroethane	50.0	39.5		ug/Kg		79	62 - 140
1,1,2-Trichloroethane	50.0	41.5		ug/Kg		83	71 - 130
1,1-Dichloroethane	50.0	44.4		ug/Kg		89	70 - 125
1,1-Dichloroethene	50.0	45.8		ug/Kg		92	67 - 122
1,1-Dichloropropene	50.0	47.7		ug/Kg		95	70 - 121
1,2,3-Trichlorobenzene	50.0	38.7		ug/Kg		77	51 - 145
1,2,3-Trichloropropane	50.0	45.7		ug/Kg		91	50 - 133
1,2,4-Trichlorobenzene	50.0	40.8		ug/Kg		82	57 - 137
1,2,4-Trimethylbenzene	50.0	44.3		ug/Kg		89	70 - 123
1,2-Dibromo-3-Chloropropane	50.0	31.3		ug/Kg		63	56 - 123
Ethylene Dibromide	50.0	42.9		ug/Kg		86	70 - 125
1,2-Dichlorobenzene	50.0	43.3		ug/Kg		87	70 - 125
1,2-Dichloroethane	50.0	44.6		ug/Kg		89	68 - 127
1,2-Dichloropropane	50.0	46.1		ug/Kg		92	67 - 130
1,3,5-Trimethylbenzene	50.0	45.7		ug/Kg		91	70 - 123
1,3-Dichlorobenzene	50.0	45.6		ug/Kg		91	70 - 125
1,3-Dichloropropane	50.0	45.2		ug/Kg		90	62 - 136
1,4-Dichlorobenzene	50.0	44.7		ug/Kg		89	70 - 120
2,2-Dichloropropane	50.0	47.5		ug/Kg		95	58 - 139
2-Chlorotoluene	50.0	45.2		ug/Kg		90	70 - 125
4-Chlorotoluene	50.0	45.6		ug/Kg		91	68 - 124
Benzene	50.0	44.9		ug/Kg		90	70 - 120
Bromobenzene	50.0	46.7		ug/Kg		93	70 - 122
Chlorobromomethane	50.0	44.8		ug/Kg		90	65 - 122
Bromoform	50.0	35.6		ug/Kg		71	56 - 132
Bromomethane	50.0	50.5		ug/Kg		101	40 - 152

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 500-737759/4
Matrix: Solid
Analysis Batch: 737759

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon tetrachloride	50.0	46.5		ug/Kg		93	59 - 133
Chlorobenzene	50.0	45.4		ug/Kg		91	70 - 120
Chloroethane	50.0	50.8		ug/Kg		102	48 - 136
Chloroform	50.0	44.5		ug/Kg		89	70 - 120
Chloromethane	50.0	50.8		ug/Kg		102	56 - 152
cis-1,2-Dichloroethene	50.0	44.9		ug/Kg		90	70 - 125
cis-1,3-Dichloropropene	50.0	41.9		ug/Kg		84	64 - 127
Chlorodibromomethane	50.0	39.3		ug/Kg		79	68 - 125
Dibromomethane	50.0	42.8		ug/Kg		86	70 - 120
Dichlorobromomethane	50.0	42.1		ug/Kg		84	69 - 120
Dichlorodifluoromethane	50.0	57.9		ug/Kg		116	40 - 159
Ethylbenzene	50.0	43.7		ug/Kg		87	70 - 123
Hexachlorobutadiene	50.0	53.0		ug/Kg		106	51 - 150
Isopropylbenzene	50.0	46.1		ug/Kg		92	70 - 126
Methyl tert-butyl ether	50.0	46.3		ug/Kg		93	55 - 123
Methylene Chloride	50.0	41.8		ug/Kg		84	69 - 125
Naphthalene	50.0	33.8		ug/Kg		68	53 - 144
n-Butylbenzene	50.0	43.3		ug/Kg		87	68 - 125
N-Propylbenzene	50.0	44.9		ug/Kg		90	69 - 127
4-Isopropyltoluene	50.0	46.5		ug/Kg		93	70 - 125
sec-Butylbenzene	50.0	45.1		ug/Kg		90	70 - 123
Styrene	50.0	42.7		ug/Kg		85	70 - 120
tert-Butylbenzene	50.0	46.4		ug/Kg		93	70 - 121
Tetrachloroethene	50.0	49.3		ug/Kg		99	70 - 128
Toluene	50.0	42.1		ug/Kg		84	70 - 125
trans-1,2-Dichloroethene	50.0	45.1		ug/Kg		90	70 - 125
trans-1,3-Dichloropropene	50.0	41.4		ug/Kg		83	62 - 128
Trichloroethene	50.0	48.2		ug/Kg		96	70 - 125
Trichlorofluoromethane	50.0	51.9		ug/Kg		104	55 - 128
Vinyl chloride	50.0	53.8		ug/Kg		108	64 - 126
Xylenes, Total	100	87.4		ug/Kg		87	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 126*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*
Dibromofluoromethane (Surr)	*95*		*75 - 120*
Toluene-d8 (Surr)	*95*		*75 - 120*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-737295/1-A
Matrix: Solid
Analysis Batch: 737364

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 737295

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.1		67	8.1	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
2-Methylnaphthalene	<6.1		67	6.1	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Acenaphthene	<6.0		33	6.0	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Acenaphthylene	<4.4		33	4.4	ug/Kg		10/16/23 15:11	10/17/23 12:06	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-737295/1-A
Matrix: Solid
Analysis Batch: 737364

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 737295

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	<5.6		33	5.6	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Benzo[a]anthracene	<4.5		33	4.5	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Benzo[a]pyrene	<6.4		33	6.4	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Benzo[b]fluoranthene	<7.2		33	7.2	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Benzo[g,h,i]perylene	<11		33	11	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Benzo[k]fluoranthene	<9.8		33	9.8	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Chrysene	<9.1		33	9.1	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Dibenz(a,h)anthracene	<6.4		33	6.4	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Fluoranthene	<6.2		33	6.2	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Fluorene	<4.7		33	4.7	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Indeno[1,2,3-cd]pyrene	<8.6		33	8.6	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Naphthalene	<5.1		33	5.1	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Phenanthrene	<4.6		33	4.6	ug/Kg		10/16/23 15:11	10/17/23 12:06	1
Pyrene	<6.6		33	6.6	ug/Kg		10/16/23 15:11	10/17/23 12:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*77*		*37 - 147*	*10/16/23 15:11*	*10/17/23 12:06*	*1*
2-Fluorobiphenyl (Surr)	*73*		*43 - 145*	*10/16/23 15:11*	*10/17/23 12:06*	*1*
Terphenyl-d14 (Surr)	*77*		*42 - 157*	*10/16/23 15:11*	*10/17/23 12:06*	*1*

Lab Sample ID: LCS 500-737295/2-A
Matrix: Solid
Analysis Batch: 737364

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 737295

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	3330	2720		ug/Kg		82	68 - 111
2-Methylnaphthalene	3330	2730		ug/Kg		82	69 - 112
Acenaphthene	3330	2660		ug/Kg		80	65 - 124
Acenaphthylene	3330	2700		ug/Kg		81	68 - 120
Anthracene	3330	2800		ug/Kg		84	70 - 114
Benzo[a]anthracene	3330	2820		ug/Kg		85	67 - 122
Benzo[a]pyrene	3330	3210		ug/Kg		96	65 - 133
Benzo[b]fluoranthene	3330	2880		ug/Kg		86	69 - 129
Benzo[g,h,i]perylene	3330	2920		ug/Kg		88	72 - 131
Benzo[k]fluoranthene	3330	2880		ug/Kg		86	68 - 127
Chrysene	3330	2790		ug/Kg		84	63 - 120
Dibenz(a,h)anthracene	3330	3050		ug/Kg		92	64 - 131
Fluoranthene	3330	3000		ug/Kg		90	62 - 120
Fluorene	3330	2590		ug/Kg		78	62 - 120
Indeno[1,2,3-cd]pyrene	3330	3410		ug/Kg		102	68 - 130
Naphthalene	3330	2570		ug/Kg		77	63 - 110
Phenanthrene	3330	2700		ug/Kg		81	62 - 120
Pyrene	3330	2840		ug/Kg		85	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5 (Surr)	*87*		*37 - 147*
2-Fluorobiphenyl (Surr)	*81*		*43 - 145*
Terphenyl-d14 (Surr)	*85*		*42 - 157*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 500-737458/1-A
Matrix: Solid
Analysis Batch: 737735

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 737458

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.34		1.0	0.34	mg/Kg		10/17/23 09:39	10/18/23 11:34	1
Barium	<0.11		1.0	0.11	mg/Kg		10/17/23 09:39	10/18/23 11:34	1
Cadmium	0.109	J	0.20	0.036	mg/Kg		10/17/23 09:39	10/18/23 11:34	1
Chromium	0.989	J	1.0	0.50	mg/Kg		10/17/23 09:39	10/18/23 11:34	1
Lead	<0.23		0.50	0.23	mg/Kg		10/17/23 09:39	10/18/23 11:34	1
Silver	<0.13		0.50	0.13	mg/Kg		10/17/23 09:39	10/18/23 11:34	1

Lab Sample ID: MB 500-737458/1-A
Matrix: Solid
Analysis Batch: 737932

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 737458

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.59		1.0	0.59	mg/Kg		10/17/23 09:39	10/19/23 12:59	1

Lab Sample ID: LCS 500-737458/2-A
Matrix: Solid
Analysis Batch: 737735

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 737458

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	10.0	8.90		mg/Kg		89	80 - 120
Barium	200	204		mg/Kg		102	80 - 120
Cadmium	5.00	4.81		mg/Kg		96	80 - 120
Chromium	20.0	20.5		mg/Kg		103	80 - 120
Lead	10.0	8.87		mg/Kg		89	80 - 120
Silver	5.00	4.76		mg/Kg		95	80 - 120

Lab Sample ID: LCS 500-737458/2-A
Matrix: Solid
Analysis Batch: 737932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 737458

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	10.0	8.51		mg/Kg		85	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-737486/12-A
Matrix: Solid
Analysis Batch: 737723

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 737486

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0088		0.017	0.0088	mg/Kg		10/17/23 13:45	10/18/23 12:37	1

Lab Sample ID: LCS 500-737486/13-A
Matrix: Solid
Analysis Batch: 737723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 737486

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.167	0.170		mg/Kg		102	80 - 120

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: 500-241081-1 MS
Matrix: Solid
Analysis Batch: 737723

Client Sample ID: Pile 1
Prep Type: Total/NA
Prep Batch: 737486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.0092		0.0867	0.0928		mg/Kg	☼	107	75 - 125

Lab Sample ID: 500-241081-1 MSD
Matrix: Solid
Analysis Batch: 737723

Client Sample ID: Pile 1
Prep Type: Total/NA
Prep Batch: 737486

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0092		0.0837	0.0904		mg/Kg	☼	108	75 - 125	3	20

Lab Sample ID: 500-241081-1 DU
Matrix: Solid
Analysis Batch: 737723

Client Sample ID: Pile 1
Prep Type: Total/NA
Prep Batch: 737486

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.0092		<0.0095		mg/Kg	☼	NC	20

Lab Chronicle

Client: Stantec Consulting Corporation
Project/Site: River Point Granular Fill Import 193705515

Job ID: 500-241081-1

Client Sample ID: Pile 1
Date Collected: 10/12/23 14:00
Date Received: 10/14/23 11:20

Lab Sample ID: 500-241081-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	737283	LWN	EET CHI	10/16/23 14:19

Client Sample ID: Pile 1
Date Collected: 10/12/23 14:00
Date Received: 10/14/23 11:20

Lab Sample ID: 500-241081-1
Matrix: Solid
Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			737333	WRE	EET CHI	10/12/23 14:00
Total/NA	Analysis	8260D		50	737759	EA	EET CHI	10/18/23 23:57
Total/NA	Prep	3541			737295	EK	EET CHI	10/16/23 15:11 - 10/16/23 19:00 [1]
Total/NA	Analysis	8270E		1	737364	SS	EET CHI	10/17/23 15:25
Total/NA	Prep	3050B			737458	BDE	EET CHI	10/17/23 09:39 - 10/17/23 10:09 [1]
Total/NA	Analysis	6010D		1	737735	RN	EET CHI	10/18/23 12:19
Total/NA	Prep	3050B			737458	BDE	EET CHI	10/17/23 09:39 - 10/17/23 10:09 [1]
Total/NA	Analysis	6010D		1	737932	RN	EET CHI	10/19/23 13:17
Total/NA	Prep	7471B			737486	SS	EET CHI	10/17/23 13:45
Total/NA	Analysis	7471B		1	737723	MJG	EET CHI	10/18/23 12:50

Client Sample ID: Pile 2
Date Collected: 10/12/23 14:05
Date Received: 10/14/23 11:20

Lab Sample ID: 500-241081-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	737283	LWN	EET CHI	10/16/23 14:19

Client Sample ID: Pile 2
Date Collected: 10/12/23 14:05
Date Received: 10/14/23 11:20

Lab Sample ID: 500-241081-2
Matrix: Solid
Percent Solids: 92.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3541			737295	EK	EET CHI	10/16/23 15:11 - 10/16/23 19:00 [1]
Total/NA	Analysis	8270E		1	737364	SS	EET CHI	10/17/23 18:21
Total/NA	Prep	3050B			737458	BDE	EET CHI	10/17/23 09:39 - 10/17/23 10:09 [1]
Total/NA	Analysis	6010D		1	737735	RN	EET CHI	10/18/23 12:23
Total/NA	Prep	3050B			737458	BDE	EET CHI	10/17/23 09:39 - 10/17/23 10:09 [1]
Total/NA	Analysis	6010D		1	737932	RN	EET CHI	10/19/23 13:21
Total/NA	Prep	7471B			737486	SS	EET CHI	10/17/23 13:45
Total/NA	Analysis	7471B		1	737723	MJG	EET CHI	10/18/23 13:12

Client Sample ID: Pile 3
Date Collected: 10/12/23 14:10
Date Received: 10/14/23 11:20

Lab Sample ID: 500-241081-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	737283	LWN	EET CHI	10/16/23 14:19

Lab Chronicle

Client: Stantec Consulting Corporation
Job ID: 500-241081-1
Project/Site: River Point Granular Fill Import 193705515

Client Sample ID: Pile 3
Lab Sample ID: 500-241081-3
Date Collected: 10/12/23 14:10
Matrix: Solid
Date Received: 10/14/23 11:20
Percent Solids: 97.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3541			737295	EK	EET CHI	10/16/23 15:11 - 10/16/23 19:00 [1]
Total/NA	Analysis	8270E		1	737364	SS	EET CHI	10/17/23 16:15
Total/NA	Prep	3050B			737458	BDE	EET CHI	10/17/23 09:39 - 10/17/23 10:09 [1]
Total/NA	Analysis	6010D		1	737735	RN	EET CHI	10/18/23 12:26
Total/NA	Prep	3050B			737458	BDE	EET CHI	10/17/23 09:39 - 10/17/23 10:09 [1]
Total/NA	Analysis	6010D		1	737932	RN	EET CHI	10/19/23 13:26
Total/NA	Prep	7471B			737486	SS	EET CHI	10/17/23 13:45
Total/NA	Analysis	7471B		1	737723	MJG	EET CHI	10/18/23 13:14

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Stantec Consulting Corporation
Job ID: 500-241081-1
Project/Site: River Point Granular Fill Import 193705515

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-24

Chain of Custody Record

Client Information
Client Contact: Jiyan Hatami
Company: Stantec Consulting Corp
Address: 12080 Corporate Pkwy, Suite 200
City: Mequon
State, Zip: WI, 53092
Phone: 262-278-9154
Email: jiyan.hatami@stantec.com
Project Name: River Point Granular Fill Import
Site: Manitowoc, WI

500-241081 COC

Sampler: J Hatami
Phone: 262-278-9154
PWSID:

Lab PM: Sandie Fredrick
E-Mail: Sandra.fredrick@et.eurofinsus.com
Carrier Tracking No(s): 7044 8941 5243
State of Origin: WI
COC No:
Page: Page 1 of 1
Job #:

Due Date Requested:
TAT Requested (days): 3
Compliance Project: Δ Yes Δ No
PO #: 193805515
WO #:
Project #:
SSOW#:

Analysis Requested

Sample Identification	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)	8260D - VOC	PAH - 8270E	RCRA - 6010D, 7471B	Total Number of containers	Special Instructions/Note.
			Preservation Code:				F	A			
Pile 1	10/12/23	1400	C	Soil	Y	N	X	X	X		
Pile 2	↓	1405	C	Soil	Y	N		X	X		
Pile 3	↓	1410	C	Soil	Y	N		X	X		
				Soil	Y	N					
					Y	N					
					Y	N					
					Y	N					
					Y	N					
					Y	N					
					Y	N					
					Y	N					

3 2 1

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, Z other (specify)
Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown ☐ Radiological

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)

Special Instructions/QC Requirements: MSA # 40411

Empty Kit Relinquished by:
Date:
Time:
Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	10/13/23, 1200	Stantec		10/14/23 1120	

Custody Seals Intact: Δ Yes Δ No
Custody Seal No:
Cooler Temperature(s) °C and Other Remarks: 2.8-2.2

Login Sample Receipt Checklist

Client: Stantec Consulting Corporation

Job Number: 500-241081-1

Login Number: 241081
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	